

Construction Selector



- Fire Ratings
- Acoustical Performance
- Product/System Index
- Specification Standards

USG

Introduction

USG Corporation companies offer a wide range of quality products and performance-engineered systems to meet specialized requirements for modern building design. The manufacture of these products to carefully controlled standards insures uniform quality. This Construction Selector covers products and systems from two USG Corporation companies:

United States Gypsum Company manufactures gypsum products, cement board panels, and related components for high-performance systems. The Company has been a leader in the building industry since its founding in 1902.

USG Interiors, Inc. manufactures commercial ceiling products, relocatable partitions, access floor systems, and mineral fiber insulation for building construction. The Company offers the widest product range in the industry and has the unique capability to market integrated interior systems.

The USG Research Center, largest and most advanced in the industry, continually develops new products and high-performance systems which are designed to provide improved function and utility while reducing construction time and cost. Products and systems are marketed only after thorough testing and field trial.

United States Gypsum Company and USG Interiors, Inc. employ technical service and sales representatives to help design professionals gain maximum performance from materials and systems by advising on selection, proper detailing and specification. See the back cover for the location nearest you.

Contents

The USG Architectural Reference Library has a format suited for the architect's use—organized by function and end result—to save time in locating technical information and improve results. It is arranged for quick comparison of functional properties and separated to isolate concise data on each major construction system and product.

This Construction Selector is the key reference index to the USG Architectural Reference Library. It summarizes fire-rated construction and acoustical performance data of various systems for quick comparison and selection. Cross-references are provided to the System Catalogs having complete description, installation details and specifications. Product Catalogs provide technical data on components used in construction systems.

The table below gives the sequence of folders comprising the USG Architectural Reference Library. The numeral before each division title indicates the CSI MASTERFORMAT Division classification. Copies of all folders listed are available through Company sales offices.

The System Catalogs and Product Catalogs are arranged in numerical sequence. The first numeral in the title number is the appropriate division number (two digits for two-digit division numbers) so that folders are easily filed. All folders are new 1990 editions. If the folders in your USG binder are more than one year old, contact your local sales office for a current set of replacement literature.

Folder description	Section No.
Div. 7/Thermal & Moisture Protection	
SA-700 DUROCK Exterior Cement Board Systems	07480
SA-707 THERMAFIBER Life Safety Insulation Systems	07200
Div. 9/Finishes	
SA-904 Ceiling Suspension Systems	09120
SA-905 Ceiling Systems	09500
SA-920 USG Plaster Products, Systems & Accessories	09200
SA-921 USG Resilient Drywall/Steel Stud Systems	09250
SA-922 USG High-Attenuation Wall Systems	09250
SA-923 USG Drywall/Steel Framed Systems	09250
SA-924 USG Drywall/Wood Framed Systems	09250
SA-925 USG Area Separation Wall Systems	09250
SA-926 USG Cavity Shaft Wall Systems	09250
SA-927 Gypsum Panels & Accessories	09250
SA-928 TEXTONE Vinyl-Faced Gypsum Panels	09985
SA-932 DUROCK Interior Cement Board Systems	09390
SA-933 USG Texture and Finish Products	09800
Div. 10/Specialties	
SA-1020 Relocatable Wall Systems	10615
SA-1027 DOWN Access Floor Systems	10270

Index

Product or System Folder Reference

A
 Accessories, structural & trim SA-920, SA-927
 Access floor systems SA-1027
 Acoustical ceiling finish, spray SA-933
 Acoustical insulation SA-707
 Acoustical sealant SA-927
 Acoustical tiles, panels, baffles SA-905
 Adhesives, ceramic tile SA-932
 Adhesives, drywall SA-927
 Air distribution for access floors SA-1027
 Aluminum foil-backed boards SA-920, SA-927
 Area separation walls SA-925
 ASTM Specs page 31, SA-100

B
 Back-blocking system SA-924
 Basecoat plaster SA-920
 Brick veneer curtain walls SA-700
 Building insulation SA-707

C
 Caged beam construction SA-920, SA-923
 Cavity shaft walls SA-926
 Ceiling grid systems SA-904, SA-905
 Ceiling heat components SA-920
 Ceiling panels, tile SA-905
 Ceiling suspension systems SA-904, SA-905
 Ceiling texture finishes SA-933
 Ceramic tile base SA-700, SA-932
 Channels, furring & lathing SA-920, SA-927
 Channels, resilient SA-920, SA-927
 Chase walls SA-920, SA-922,
 SA-923, SA-924, SA-926
 Column fireproofing SA-707, SA-920, SA-923
 Concrete fasteners SA-927
 Concrete finishing compound SA-920, SA-927
 Control joints SA-920, SA-927
 Corner, casing beads SA-920, SA-927
 Curtain wall insulation SA-707
 Curtain walls SA-700, SA-923
 Curved walls SA-923

D
 Dry-set mortar SA-932
 Drywall ceilings SA-923, SA-924
 Drywall fireproofing SA-923
 Drywall furring systems SA-923, SA-922
 Drywall partitions, laminated SA-923, SA-924, SA-926
 Drywall partitions, steel framed SA-921,
 SA-922, SA-923, SA-925, SA-926
 Drywall partitions, wood-framed SA-924, SA-925

E
 Electrical systems for access floors SA-1027
 Epoxy matrix exterior finish SA-700
 Exterior cement board SA-700
 Exterior curtain walls SA-700, SA-923
 Exterior walls and ceilings SA-700, SA-905,
 SA-923, SA-924

Product or System Folder Reference

F
 Fabric-covered acoustical panels SA-905
 Fabric-covered walls SA-905
 Federal Specs page 31, SA-100
 Finishing lime SA-920
 Fireproofing, mineral felt SA-707
 Fire safety systems SA-707
 Fire-wall systems SA-925
 Flame-resistant blankets SA-707
 Floating angle construction SA-920, SA-924
 Foil-back gypsum panels, lath SA-920, SA-927
 Foil-back insulation SA-707

G
 Gauging plasters SA-920
 Glass-fiber acoustical panels SA-905
 Grout, ceramic tile SA-700, SA-932
 Gypsum coreboard SA-927
 Gypsum lath ceilings SA-920
 Gypsum lath partitions SA-920, SA-926
 Gypsum liner panels SA-927
 Gypsum panels SA-927, SA-928
 Gypsum plaster bases SA-920

I
 Insulating blankets, mats SA-707
 Insulating furring SA-920, SA-923
 Insulating gypsum panels, lath SA-920, SA-927
 Insulation, fire-containment SA-707
 Island trim SA-904

J
 Joint treatment SA-927

L
 Lathing accessories, clips SA-920
 Light fixture protection SA-905
 Lime, hydrated SA-920
 Linear metal ceilings SA-905

M
 Metal-faced ceilings SA-905
 Metal lath & accessories SA-920
 Metal stud partitions SA-920, SA-921, SA-922,
 SA-923, SA-925, SA-926
 Metal trim SA-920, SA-927
 Mineral felt fireproofing SA-707
 Mineral fiber insulation SA-707
 Mini-brick exterior finish SA-700
 Mirrored ceiling panels SA-905
 Mouldings, drywall SA-927, SA-928
 MTC sound rating SA-921, SA-922

References listed are *principal source* of information in this Architectural Technical Literature series. Repetition or additional data may occur in other folders.

Product or System Folder Reference

P
 Party walls SA-920, SA-921, SA-922,
 SA-923, SA-924, SA-925
 Plaster bases SA-920
 Plaster ceilings SA-920
 Plaster furring systems SA-920
 Plaster partitions, steel-framed SA-920
 Plaster partitions, wood-framed SA-920
 Plastering lime SA-920
 Plasters—basecoat, finish SA-920
 Plastic trim SA-904, SA-920, SA-927, SA-928
 Poke-thru insulation SA-707
 Prefinished gypsum panels SA-928
 Primer SA-927, SA-933

R
 Radiant heat ceiling components SA-920
 Resilient ceilings SA-920, SA-924
 Resilient partitions SA-920, SA-921,
 SA-924, SA-925

S
 Safing insulation SA-707
 Screws SA-920, SA-927
 Security walls SA-920
 Shaft wall partitions SA-926
 Sheathing, gypsum SA-927
 Smoke-stop insulation SA-707
 Soffits, drywall SA-923
 Soil-resistant ceilings SA-905
 Sound attenuation fire blankets SA-707
 Sound control partitions SA-921, SA-922
 Stucco SA-920

T
 Tape, reinforcing SA-920, SA-927
 Texture finishes SA-933
 Textured ceilings SA-905, SA-933
 Thin-brick exterior finish SA-700
 Tile accessories SA-932
 Tile backer board SA-932
 Trim accessories SA-920, SA-927

V
 Veneer finishes SA-920
 Veneer plaster systems SA-920
 Vent shaft construction SA-926
 Vinyl-faced gypsum panels SA-928
 Vinyl trim SA-920, SA-927, SA-928

W
 Wallboard & accessories SA-927
 Wallcovering, vinyl SA-928
 Wall furring systems SA-920, SA-922, SA-923
 Wall panels, prefinished SA-928
 Wood-frame partitions, ceilings SA-920,
 SA-924, SA-925

How to use this selector

Description of sections

This folder is divided into nine sections—A to I—covering the categories indicated below. Within each section are listed brief analyses of major variations of each system, as documented by fire or sound tests, federal specifications or ASTM designations, or other pertinent criteria. They usually are arranged sequentially according to fire ratings—the criterion that most often governs selection.

These analyses are organized to locate the criteria desired at a glance. In Section A, covering partitions, all information appears under five column headings:

Fire-rated construction		Acoustical performance		
Detail & physical data	Description & test no.	STC	Description & test no.	Folder reference

In section B—ceiling systems—headings are revised to show STC and IIC sound ratings. In sections C, D, E and F—structural fireproofing, exterior walls, wall furring and curtain walls—certain of these columns are not applicable and are omitted. In section G—access floor systems—information for office and computer room systems appears under column headings for rolling load, concentrated load, ultimate load and impact performance. Information for clean room systems appears under column headings for load performance and airflow.

The analyses applicable to each system, as listed in the first seven sections here, are repeated in the individual folder covering that system, indicated by number in the "Folder Reference" column. Full information, details and specifications on the selected constructions also are available in the folders. See contents, page 2, for folder locations.

- A Partitions**—pages 5 to 13—include mechanically fastened and laminated assemblies, steel and wood-framed, load bearing and non-load bearing—in gypsum base and veneer finishes, gypsum drywall and conventional lath and plaster.
- B Ceilings**—pages 14 to 22—include suspended, furred and direct-attachment types, employing drywall, veneer finishes, conventional plaster and mineral fiber tile or panel surfaces with companion floor or roof construction.
- C Structural fireproofing**—pages 23 to 26—shows basic methods of protecting columns and beams with gypsum base and veneer finishes, mineral fireproofing and gypsum drywall.
- D Exterior walls**—pages 26 and 27—includes load-bearing wood and steel stud systems and exterior curtain wall assemblies.
- E Exterior wall furring**—page 28—compares methods of furring exterior walls, including veneer and conventional plaster and drywall furring systems.
- F Curtain walls**—pages 28 and 29—covers glass, aluminum and granite spandrel panels, other metal-faced wall assemblies and glass-fiber reinforced concrete panels.
- G Access floor systems**—pages 29 to 30—shows structural performance of panels and understructures for offices, computer rooms and clean rooms.
- H Product and system catalogs**—page 31—provides a brief description of each catalog in the Architectural Reference Library.
- I Products/specification standards**—pages 31 to 32—Federal specification and ASTM designation qualifications of USG Corporation products.

Sound tests

Sound tests are conducted under ideal laboratory conditions according to ASTM procedures. Comparable field performance depends on building design and careful attention to detailing and workmanship.

Certain sound tests, conducted in accordance with ASTM methods, measured sound transmission of 11 frequencies. These data have been retained in this selector to serve as a guide to the designer. Based on experience, the STC values are very close to those obtained for the assembly under current methods at 16 frequencies.

Sound ratings shown for steel-framed partitions apply to systems constructed with 25-ga. steel studs, unless otherwise noted. Heavier gauge studs are more rigid and may not provide the same sound ratings.

Abbreviations

In the test analyses following, abbreviation of "est" indicates *estimated*; abbreviation *N/A* indicates *not applicable* or *not available*. Estimated fire ratings are based on an engineering evaluation by qualified professionals. Other abbreviations are shown below.

acoust	acoustical	int	interior
alt	alternate	lamin	laminated
alum	aluminum	lbr	lumber
appl	applied	lightwt	lightweight
ASTM	Amer. Soc. Testing Materials	lim	limiting
att	attached	max	maximum
atten	attenuation	met	metal
betw	between	min	mineral or minimum
bd	board	nom	nominal
blkts	blankets	noncomb	noncombustible
cem	cement	o. c.	on center
chan	channel	opp	opposite
clg	ceiling	oz	ounce
col	column	partn	partition
com	common	perim	perimeter
conc	concrete	plywd	plywood
contin	continuous	prot	protected or protection
conv	conventional	qtr	quarter
corrug	corrugated	recom	recommended
cr	cold rolled	reg	regular
ctd	coated	rel	relocatable
dbl	double	resil	resilient
Des	Design	run	runner(s)
ea	each	SAFB	sound attenuation fire blankets
exp	exposed	sep	separate
extendg	extending	separ	separated
fin	finish or finished	stag	staggered
fireprfg	fireproofing	stl	steel
fixt	fixture	subflr	subfloor
flr	floor	susp	suspended or suspension
freq	frequency	syst	system
ft	foot or feet	thickn	thickness
fur	furring	unfin	unfinished
ga	gauge	USG	USG Corporation
GA	Gypsum Association	vert	vertically
galv	galvanized	wd	wood
hex	hexagonal	wt	weight (lb./sq. ft.)
horiz	horizontally		
hr	hour		
ht	height		
insul	insulating or insulation		

Details

In details, color background designates materials indicated below:



Sound-deadening material; column or beam fireproofing.

RC-1™ Resilient Channels.

Furring channels.

Laboratories

Fire
UL—Underwriters Laboratories Inc.
OSU—Ohio State University
U of C—University of California
WHI—Warnock Hersey International
CEG—Consulting Engineers Group

Sound

TL—Riverbank Acoustical Laboratories
G & H—Geiger & Hamme
CK—Cedar Knolls Acoust. Laboratories
BBN—Bolt, Beranek and Newman
KSO—Kenward S. Oliphant
KAL—Kodaras Acoustical Laboratories
SA—Shiner + Assoc.

Sound rating

STC	sound transmission class per ASTM test procedures	IIC	impact insulation class per ASTM test procedures
clg. STC range	sound transmission class per AMA 1-II test procedure	MTC	music/machinery transmission class—see folders SA-921 and SA-922

Test certification

USG Corporation will provide test certification for published fire, sound and structural data covering systems designed and constructed according to its published specifications. Tests are conducted on Company products assembled to meet performance requirements of established test procedures specified by various agencies. System performance following any substitution of materials or compromise in assembly design cannot be certified and may result in failure under critical conditions.

STC range	60-69	55-59	50-54	45-49	40-44	34-39
Drywall assemblies	2, 3, 4, 5, 7, 8, 9, 10, 17, 18, 19, 21 33, 34, 75, 79	10, 11, 13, 19, 21, 29, 30, 31, 33, 39, 41, 49, 50, 61, 62, 63, 65, 83	21, 22, 23, 24, 28, 30, 31, 37, 39, 40, 41, 63, 64, 65, 66, 67, 69, 72, 76, 79, 84, 85, 89	20, 21, 26, 27, 31, 42, 43, 48, 53, 54, 70, 71, 72, 81, 83, 84, 90, 92, 93, 94, 96, 97	67, 72, 78, 81, 87, 88, 96, 97	27, 73, 86, 88
Plaster assemblies	2, 77	13, 51	24, 45, 46, 52, 57 60, 79	27, 45, 53, 57		27, 56

Fire-rated construction		Acoustical performance		Folder reference
Detail & physical data	Description & test no.	STC	Description & test no.	

Drywall steel-framed assemblies—non-load bearing

wt. 16wt. 17

Drywall steel-framed assemblies—non-load bearing

	Double Wall Drywall—$\frac{1}{2}$" SHEETROCK brand gypsum panels, FIRECODE C core—two rows of 1" SHEETROCK brand gypsum liner panels spaced $12\frac{1}{2}$" apart and screw-att to steel angle runners—liner panels set betw 1" H-splines 24" o. c.—12" THERMAFIBER SAFB in cavity—face panels screw-att to H-splines—$\frac{1}{2}$" bead SHEETROCK acoustical sealant for damping vertical centerline, caulking perimeter—joints fin—UL Des U441	65	TL-83-229 (MTC 62)	SA-922	5
--	---	-----------	----------------------------------	---------------	----------

wt. 12wt. 14

Fire-rated construction

Detail & physical data

Description & test no.

Acoustical performance

STC

Description & test no.

Folder reference

3-Hour Rated Partitions

Drywall steel-framed assemblies—non-load bearing (continued)

	Double Wall Drywall—1/2" SHEETROCK brand gypsum panels, FIRECODE C core—one row of single-layer, one row of double-layer 1" SHEETROCK brand gypsum liner panels spaced 3 1/2" apart and screw-att to steel angle runners—single-layer liner panels set betw 1" H-splines 24" o.c., double-layer liner panels set betw 2" H-splines 24" o.c.—3" THERMAFIBER SAFB in cavity—face panels screw-att to H-splines—perim caulked—joints fin— UL Des U441	63	TL-83-222 (MTC 58)	SA-922	8
	Resil Stud Drywall—1/2" SHEETROCK brand gypsum panels, FIRECODE C core—35SJ20 studs 24" o.c.—3" THERMAFIBER SAFB—RC-1 chan one side spaced 24" o.c. screw-att to studs—3 layers gypsum panels screw-att to studs, 2 layers screw-att to chan—panels appl vert with joints stag—joints fin—perimeter caulked— UL Des U455	61 62	RAL-TL-87-153 (56 MTC) Based on 5/8" thick panels— RAL-TL-83-213 (59 MTC)	SA-921	9
	Double Wall Drywall—1/2" SHEETROCK brand gypsum panels, FIRECODE C core—two rows of 1" SHEETROCK brand gypsum liner panels spaced 3 1/2" apart and screw-att to steel angle runners—liner panels set betw 1" H-splines 24" o.c.—3" THERMAFIBER SAFB in cavity—face panels screw-att to H-splines—perim caulked—joints fin— UL Des U441	57 60 62	TL-83-211 (MTC 57) TL-83-313 (MTC 57) Based on vertical cntrline acoust sealant beads TL-83-232 (MTC 60) Based on liner panels spaced 6 1/2", 6" SAFB in cavity, and vertical cntrline acoust sealant beads	SA-922	10
	Cavity Area Separation Wall—5/8" SHEETROCK brand gypsum panels, FIRECODE C core—1" SHEETROCK brand gypsum liner panels set betw USG steel C-H studs 24" o.c.—RC-1 chan 24" o.c. screw att to side opp liner panels—1 1/2" THERMAFIBER SAFB—single layer panels one side apply vert & screw att—2 layers opp side screw att to chan—base layer appl horiz—face layer appl vert—joints fin—perim caulked—est. fire rating based on U of C 2-16-72	57	BBN-730622	SA-925	11
	Cavity Shaft Wall Gypsum Drywall—3 layers 5/8" SHEETROCK brand gypsum panels, FIRECODE C core, one side—1" SHEETROCK brand gypsum liner panels set betw USG steel C-H studs 24" o.c.—panels screw att to side opp liner panels with joints stag—base & face layers appl vert—mid layer appl horiz—joints fin—est. fire rating based on U of C 2-16-72—rating also applies with IMPERIAL FIRECODE C base and veneer finish surface	N/A		SA-926	12
	Steel Stud—3 layers 1/2" SHEETROCK brand gypsum panels, FIRECODE C core, ea side—1 5/8" studs 24" o.c.—base layers appl vert—face layer appl horiz—panels screw-att with joints stag & fin—perimeter caulked—rating based on assembly with or without sound atten fire blankets—rating also applies with IMPERIAL FIRECODE C base and veneer finish surface— UL Des U435	59	Based on assembly with 1 1/2" SAFB in cavity— SA-830112	SA-920 SA-923	13
	Steel Stud—3 layers 1/2" SHEETROCK brand gypsum panels, FIRECODE C core, ea side—1 5/8" studs 24" o.c. in 2 rows spaced 3" apart—steel truss member—gypsum panel gussets or stl run braces spanning chase screw-att to studs—panels appl vert & screw att—joints stag & fin—2 hr. rating applies with 2 layers panels ea side—1 hr. rating applies with single layer 5/8" panels ea side— UL Des U436	N/A		SA-923	14
	Solid Area Separation Wall—two 1" SHEETROCK brand gypsum liner panels set betw USG one-piece steel H-studs 24" o.c.—2" THERMAFIBER SAFB ea side—blks appl horiz with joints stag and staple-att to liner panels— WHI-495-0393, 0394	N/A		SA-925	15

Drywall steel-framed assembly—load bearing

	Four layers 1/2" SHEETROCK brand gypsum panels, FIRECODE C core, ea side—35SJ20 studs 24" o.c.—1", 1 1/2", 2" or 3" THERMAFIBER SAFB optional—base layers appl vert with joints stag—base panels att with Type S-12 screws 48" o.c.—face layer appl vert or horiz with 2 5/8" Type S-12 screws 12" o.c. and 1 1/2" Type G screws in panels—rating also applies with IMPERIAL FIRECODE C base and veneer finish surface— load bearing up to 100% allowable stud axial load—UL Des U426	N/A		SA-923	16
--	--	-----	--	--------	-----------

2-Hour Rated Partitions

Drywall steel-framed assemblies—non-load bearing

	Resil Stud Drywall—1/2" SHEETROCK brand gypsum panels, FIRECODE C core—60SJ20 studs 24" o.c.—5" THERMAFIBER SAFB—RC-1 chan one side spaced 24" o.c. screw-att to studs—double-layer gypsum panels screw-att to studs & RC-1 chan—panels appl vert with joints stag—joints fin—perimeter caulked— UL Des U454	63 62	RAL-TL-87-141 (59 MTC) Based on 5/8" thick panels— RAL-TL-84-139 (58 MTC)	SA-921	17
--	---	----------	---	--------	-----------

Fire-rated construction

Detail & physical data

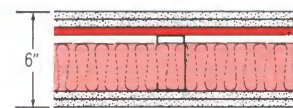
Description & test no.

Acoustical performance

STC

Description & test no.

Folder reference



Resil Stud Drywall— $\frac{1}{2}$ " SHEETROCK brand gypsum panels, FIRECODE C core—35SJ20 studs 24" o.c.—3" THERMAFIBER SAFB—RC-1 chan one side spaced 24" o.c. screw-att to studs—2 layers gypsum panels screw-att to chan, 2 layers screw-att to chan—panels appl vert with joints stag—joints fin—perimeter caulked—**UL Des U454**

60 **RAL-TL-87-154** (54 MTC)
61 Based on $\frac{5}{8}$ " thick panels—**RAL-TL-83-214** (57 MTC)

SA-921 **18**

wt. 10

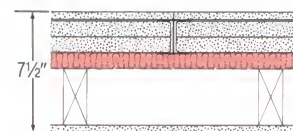


Resil Stud Drywall— $\frac{5}{8}$ " SHEETROCK brand gypsum panels, FIRECODE C core—35SJ20 studs 24" o.c.—3" THERMAFIBER SAFB—RC-1 chan one side spaced 24" o.c. screw-att to studs—single-layer gypsum panels screw-att to studs, 2-layers screw-att to chan—panels appl vert with joints stag—joints fin—perimeter caulked—**UL Des U453**

58 Estimated sound test (52 MTC)
60 Based on $\frac{1}{2}$ " thick panels, 60SJ20 studs, 5" SAFB—**RAL-TL-87-140** (54 MTC)
59 Based on $\frac{5}{8}$ " thick panels, 60SJ20 studs, 5" SAFB—**RAL-TL-84-136** (54 MTC)

SA-921 **19**

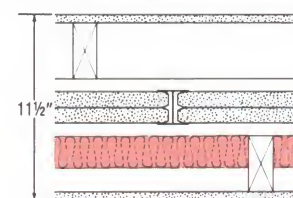
wt. 9



Solid Area Separation Wall—two 1" SHEETROCK brand gypsum liner panels set betw USG one-piece steel H-studs 24" o.c.—1" THERMAFIBER SAFB stapled over gypsum liner panels— $\frac{1}{2}$ " reg gypsum panels—perm caulked—est. fire rating based on WHI-495-PSV-0245

47 Based on no SAFB—**TL-88-234**

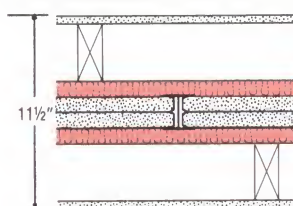
SA-925 **20**



Solid Area Separation Wall— $\frac{1}{2}$ " SHEETROCK brand gypsum panels—two 1" SHEETROCK brand gypsum liner panels set betw USG one-piece steel H-studs 24" o.c.—2x4 wd studs 16" o.c. each side on 2x4 plates min. $\frac{3}{4}$ " from liner panels—2" THERMAFIBER SAFB in one cavity—gypsum panels att with 1 1/4" Type W screws 12" o.c.—joints stag & fin.—perm caulked—fire rated per UL Des U336 based on core assembly "32"

54 **TL-88-348**
46 Based on 2x4s and no SAFB—**TL-88-353**
58 Based on 2x4s and 2" SAFB on both sides—**TL-88-347**
57 Based on 2x4s and 3" SAFB one side—**TL-88-351**
60 Based on 2x4s and 3" SAFB on both sides—**TL-88-350**
45 Based on 2x3s, $\frac{5}{8}$ " gypsum panels, no SAFB—**BBN-730104**
54 Based on 2x3s, $\frac{5}{8}$ " gypsum panels, 2" SAFB one side—**BBN-730103**
57 Based on 2x3s, $\frac{5}{8}$ " gypsum panels, 2" SAFB both sides—**BBN-730102**

SA-925 **21**



Solid Area Separation Wall—two 1" SHEETROCK brand gypsum liner panels set betw USG one-piece steel H-studs 24" o.c.—2x4 wd studs 16" o.c. each side on 2x4 plates min. $\frac{1}{2}$ " from liner panels—1" THERMAFIBER SAFB stapled to both sides of liner panels— $\frac{1}{2}$ " SHEETROCK brand gypsum panels, facing ea side—**WHI-495-PSV-0245**

53 **TL-88-346**
50 Based on 1" SAFB one side—**TL-88-344**

SA-925 **22**



Cavity Area Separation Wall— $\frac{1}{2}$ " SHEETROCK brand gypsum panels, water-resistant, FIRECODE C core—1" SHEETROCK brand gypsum liner panels set betw USG steel C-H studs 24" o.c.—RC-1 chan 24" o.c. screw att to side opp liner panels—1 1/2" THERMAFIBER SAFB—single layer panels ea side appl vert & screw att—joints stag on opp sides & fin—perm caulked—est. fire rating based on U of C 6-23-75

50 Based on $\frac{1}{2}$ " SHEETROCK brand gypsum panels, FIRECODE C core—**BBN-750411**

SA-925 **23**

wt. 10



Cavity Shaft Wall Gypsum Drywall—2 layers $\frac{1}{2}$ " SHEETROCK brand gypsum panels, FIRECODE C core, one side—1" SHEETROCK brand gypsum liner panels set betw USG steel C-H studs 24" o.c.—RC-1 chan spaced 24" o.c.— $\frac{1}{2}$ " THERMAFIBER SAFB—panels & RC-1 chan screw-att to side opp liner panels—base layer appl horiz—face layer appl vert—joints fin—est. fire rating based on U of C 2-8-72 and U of C 6-23-75—rating also applies with IMPERIAL FIRECODE C base and veneer finish

51 **BBN-750412**

SA-926 **24**

wt. 10



Cavity Shaft Wall Gypsum Drywall— $\frac{1}{2}$ " SHEETROCK brand gypsum panels, FIRECODE C core—1" SHEETROCK brand gypsum liner panels set betw USG steel C-H studs 24" o.c.—single layer panels ea side appl vert & screw att—joints stag on opp sides & fin—rating also applies with IMPERIAL FIRECODE C base and veneer finish surface—fire-tested both sides—**UL Des U467**

N/A

SA-926 **25**

wt. 9

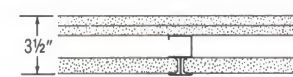


Cavity Area Separation Wall— $\frac{1}{2}$ " SHEETROCK brand gypsum panels, water-resistant, FIRECODE C core—1" SHEETROCK brand gypsum liner panels set betw USG steel C-H studs 24" o.c.—single layer panels ea side appl vert & screw att—joints stag on opp side & fin—perm caulked—**U of C 6-23-75**

47 Based on $\frac{1}{2}$ " SHEETROCK brand gypsum panels, FIRECODE C core, and 1" SAFB in cavity—**BBN-750704**

SA-925 **26**

wt. 9



Cavity Shaft Wall Gypsum Drywall—2 layers $\frac{1}{2}$ " SHEETROCK brand gypsum panels, FIRECODE C core, one side—1" SHEETROCK brand liner panels set betw USG steel C-H studs 24" o.c.—panels appl vert to side opp liner panels & screw att—joints fin—rating also applies with IMPERIAL FIRECODE C base and veneer finish surface—fire-tested both sides—**UL Des U438**

39 **USG-750302**
47 Based on 1" SAFB in cavity—**BBN-750706**

SA-926 **27**

wt. 9

Fire-rated construction

Detail & physical data

Description & test no.

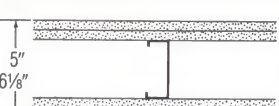
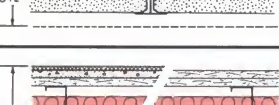
Acoustical performance

STC Description & test no.

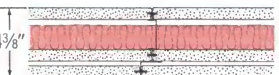
Folder reference

2-Hour Rated Partitions

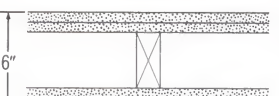
Drywall steel-framed assemblies—non-load bearing (continued)

	Steel Stud—2 layers 1/2" SHEETROCK brand gypsum panels, FIRECODE C core, ea side—1 5/8" 2 1/2" or 3 5/8" studs 24" o.c.—1", 1 1/2" or 2" THERMAFIBER SAFB stapled—panels appl vert & joints stag—base layer screw att—face layer strip lamin or screw att—joints fin—perim caulked—rating based on assembly with or without SAFB— UL Des U412	50	Based on 3 5/8" stud assembly without SAFB— USG-840817	SA-923	28
		55	Based on 3 5/8" studs and 1 1/2" SAFB— SA-800421		
		52	Based on lamin. face layer, 1 1/2" SAFB and 2 1/2" studs— SA-860932		
		54	Based on 2 1/2" studs, screw-att face layer and 1 1/2" SAFB— CK-654-40		
wt. 10					
wt. 11					
	Steel Stud Chase Wall—2 layers 1/2" SHEETROCK brand gypsum panels, FIRECODE C core, ea side—1 5/8" studs 24" o.c. in 2 rows spaced 5 3/4" apart—1/2" gypsum panel gussets spanning chase att to studs at qtr points—panels appl vert & screw att—1 1/2" THERMAFIBER SAFB one side—joints stag & fin—perimeter caulked—est. fire rating based on UL Des U412	55	SA-860907	SA-923	29
	Steel Stud Chase Wall—2 layers 5/8" SHEETROCK brand gypsum panels, FIRECODE core, ea side—1 5/8" studs 24" o.c. in 2 rows spaced 6 1/4" apart—5/8" gypsum panel gussets or stl run braces spanning chase screw-att to studs—panels appl vert & screw att—joints stag & fin— UL Des U420	52	TL-76-162	SA-923	30
		57	Based on 3 1/2" insulation one side— TL-76-156		
wt. 12					
	Steel Stud—2 layers 5/8" SHEETROCK brand gypsum panels, FIRECODE core, plain or vinyl faced vert appl ea side—2 1/2" or 3 5/8" studs 24" o.c.—base layer screw att—face layer lamin or screw att—joints fin or unfin—perimeter caulked— UL Des U411 —rating also applies with plain panels horiz appl— GA-WP-1548	48	Based on 3 5/8" studs and 5/8" SHEETROCK brand gypsum panels, FIRECODE C core— BBN-770408	SA-923	31
		51	Based on 2 1/2" SAFB in cavity— GA-WP-1548		
		56	Based on 2" SAFB in cavity— USG-840819		
wt. 12					
	Solid Area Separation Wall—two 1" SHEETROCK brand gypsum liner panels betw USG one-piece steel H-studs 24" o.c.—min. 3/4" air space both sides separating liner panels from any adjacent construction— UL Des U336	N/A		SA-925	32
	Steel Stud—2 layer—1/2" DUROCK interior cement board and 1/4" ceramic tile—base layer 1/2" SHEETROCK brand gypsum panels, FIRECODE C core—3 5/8" studs 16" o.c.—3" THERMAFIBER SAFB—board att with 1 5/8" DUROCK screws 8" o.c.—joints taped—alt based on 2 layers gypsum panels one side— UL Des U443	61	SA-851028	SA-932	33
		59	Based on 2 layers 1/2" SHEETROCK brand gypsum panels, FIRECODE C core, one side— SA-851016		
wt. 18					
	Plumbing Chase Wall—2 layer—1/2" DUROCK interior cement board and 1/4" ceramic tile—base layer 1/2" SHEETROCK brand gypsum panels, FIRECODE C core—1 5/8" studs 24" o.c. in two rows with horiz braces—1 1/2" THERMAFIBER SAFB—board att with 1 5/8" DUROCK screws 8" o.c.—joints taped—alt based on 2 layers gypsum panels one side—16" stud spacing recommended— UL Des U444	65	SA-851112	SA-932	34
		62	Based on 2 layers 1/2" SHEETROCK brand gypsum panels, FIRECODE C core, one side— SA-851102		
wt. 18					
	Cavity Shaft Wall Cement Board/Gypsum Drywall—1/2" DUROCK interior cement board—5/8" SHEETROCK brand gypsum panels, FIRECODE C core—1" SHEETROCK brand gypsum liner panels set betw USG steel 20-ga. min C-H studs 24" o.c.—1 1/2" THERMAFIBER SAFB—cement board screw att with 1 5/8" DUROCK screws & laminated to gypsum panel with 4" strip DURABOND ceramic tile mastic applied with 1/4" notched trowel midway betw studs—joints fin— UL Des U459	N/A		SA-700 SA-926	35
	Steel Stud—1/2" DUROCK interior cement board—base layer 1/2" SHEETROCK brand gypsum panels, FIRECODE C core, one side, double-layer other side—3 1/2" studs 16" o.c.—3" THERMAFIBER SAFB—board att with 1 5/8" DUROCK screws 8" o.c.—joints taped— UL Des U474	N/A		SA-932	36

Drywall relocatable assembly—non-load bearing

	Rel ULTRAWALL Partn—concealed "H" studs 24" o.c.—1 1/2" THERMAFIBER SAFB—3/4" x 24" bevel edge panels one side—double layer opp side with 3/4" Z-runners betw layers—joints unfin—perim caulked—painted— UL Des U416	50	TL-70-198	SA-1020	37
---	---	----	------------------	---------	-----------

Drywall wood-framed assemblies—load bearing

	Wd Stud—2 layers 5/8" SHEETROCK brand gypsum panels, FIRECODE core, or SHEETROCK brand gypsum panels, water-resistant, FIRECODE core, ea side—2x4 16" o.c.—base layer att with 1 7/8" nails 6" o.c.—face layer att with 2 3/8" nails 8" o.c.—joints exp or fin— UL Des U301	N/A		SA-924	38
---	--	-----	--	--------	-----------

wt. 12

Fire-rated construction

Detail & physical data

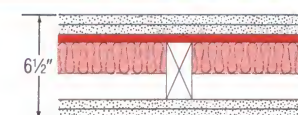
Description & test no.

Acoustical performance

STC

Description & test no.

Folder reference



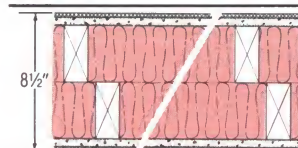
wt. 13

Wd Stud—2 layers 5/8" SHEETROCK brand gypsum panels, FIRECODE C core, ea side—2x4 16" o.c.—2" THERMAFIBER SAFB—RC-1 chan one side spaced 24" o.c.—resil side screw att—opp side nail att—both base layers appl vert and face layers appl horiz—resil layers perim caulked—joints fin—**T-4799-OSU**

58

USG-810219Based on same assembly (non-fire rated) without SAFB—**USG-810218**

SA-924

39

wt. 18

Plumbing Chase Wall—1/2" DUROCK interior cement board and 1/4" ceramic tile—2 rows 2x4 16" o.c. on 2x8 com plate—3 1/2" THERMAFIBER SAFB both cavities—board att with 1 5/8" DUROCK screws or 1 1/2" galv. nails 8" o.c.—joints taped—**load bearing up to 50% allowable design load—WHI-495-0505 & 0508**

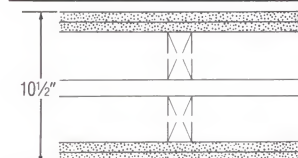
50

SA-840523Based on 5/8" SHEETROCK brand gypsum panels, FIRECODE core, one side—**SA-840516**

SA-932

40

Drywall wood-framed assemblies—non-load bearing



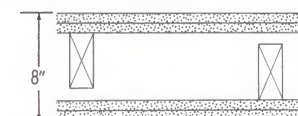
wt. 13

Wd Stud—2 layers 5/8" SHEETROCK brand gypsum panels, FIRECODE C core—2 rows 2x4 16" o.c. on sep plates 1" apart—base layer att with 6d ctd nails 16" o.c.—face layer att with 7d ctd nails 7" o.c.—perim caulked—joints fin—est. fire rating based on UL Des U301

51

TL-69-214Based on 3 1/2" thick insulation in one cavity—**USG-710120**

SA-924

41

wt. 13

Stag Wd Stud—2 layers 5/8" SHEETROCK brand gypsum panels, FIRECODE C core—2x4 16" o.c. on 2x6 com plate—base layer att with 6d ctd nails 6" o.c.—face layer att with 8d ctd nails 8" o.c.—perim caulked—joints fin—est. fire rating based on UL Des U301

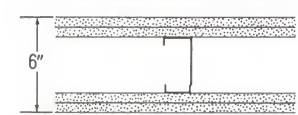
47

TL-69-211

SA-924

42

Drywall steel-framed assembly—load bearing



wt. 10

Dbl layer 5/8" SHEETROCK brand gypsum panels, FIRECODE core—35SJ20 studs 24" o.c.—panels appl vert—base layer att with 1" Type S-12 screws 12" o.c.—face layer att with 1 5/8" Type S-12 screws 12" o.c.—joints fin—**load bearing up to 80% allowable stud axial load—UL Des U425**

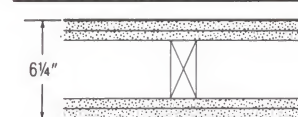
48

Based on 2" SAFB in cavity—**USG-811006**Based on 2" SAFB and 60SJ20 stud—**USG-810937**

SA-923

43

Plaster wood-framed assembly—load bearing



wt. 12

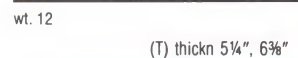
Wd Stud—2 layers 5/8" IMPERIAL FIRECODE C gypsum base & 1/16" veneer finish both sides—2x4 16" o.c.—base layer 6d nails 6" o.c.—face layer 8d nails 8" o.c.—joints taped—**UL Des U301**

N/A

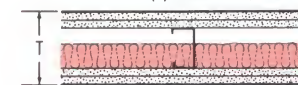
SA-920

44

Plaster steel-framed assemblies—non-load bearing



(T) thickn 5 1/4", 6 3/8"



(T) thickn 4 3/4", 5 7/8"

wt. 10

Steel Stud—2 layers 5/8" IMPERIAL FIRECODE gypsum base & veneer finish—2 1/2" or 3 5/8" studs 24" o.c.—base layer screw att—face layer lamin or screw att—joints taped—1/16" veneer finish—**UL Des U411**

47

Based on 2 1/2" studs—**TL-75-73**Based on 2 1/2" studs and 1 1/2" SAFB in cavity—**TL-75-70**

SA-920

45

Steel Stud—2 layers 1/2" IMPERIAL FIRECODE C gypsum base & veneer finish—2 1/2" or 3 5/8" studs 24" o.c.—2" THERMAFIBER SAFB stapled one side—base appl vert & joints stag—base layer screw att—face layer strip lamin or screw att—joints taped—1/16" veneer finish—perimeter caulked—rating based on assembly with or without SAFB—**UL Des U412**

53

Based on assembly with 2 1/2" studs and 1" SAFB—**CK-654-66**

SA-920

46

STRUCTOCORE 18-ga. steel panels att to 18-ga. steel perimeter channels—3/4" min. coverage STRUCTO-BASE gypsum plaster sanded at 2:1 by weight in two coats—IMPERIAL finish plaster applied 3/32" thick—**UL Des U476**

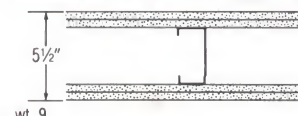
N/A

SA-920

47

1 1/2-Hour Rated Partitions

Drywall steel-framed assembly—load bearing



wt. 9

Load-bearing Steel Stud—Dbl layer 1/2" SHEETROCK brand gypsum panels, FIRECODE C core—35SJ20 studs 24" o.c.—panels appl vert—base layer att with 1" Type S-12 screws 12" o.c.—face layer att with 1 5/8" Type S-12 screws 12" o.c.—joints fin—**load bearing up to 100% allowable axial load—UL Des U425**

49

Based on 2" SAFB—**USG-811009**Based on 2" SAFB and 60SJ20 studs—**USG-810940**

SA-923

48

Fire-rated construction

Detail & physical data

Description & test no.

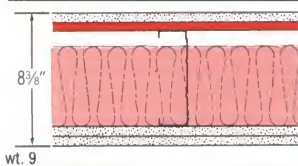
Acoustical performance

STC

Description & test no.

Folder reference

Drywall steel-framed assemblies—non-load bearing



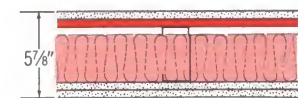
Resil Stud Drywall— $\frac{5}{8}$ " SHEETROCK brand gypsum panels, FIRECODE C core—60SJ20 studs 24" o.c.—5" THERMAFIBER SAFB—RC-1 chan one side spaced 24" o.c. screw-att to studs—2 layers gypsum panels screw-att to studs, 1 layer screw-att to chan—panels appl vert with joints stag—joints fin—perimeter caulked—UL Des U452

59

RAL-TL-84-140 (54 MTC)

SA-921

49



Resil Stud Drywall— $\frac{5}{8}$ " SHEETROCK brand gypsum panels, FIRECODE C core—35SJ20 24" o.c.—3" THERMAFIBER SAFB—RC-1 chan one side spaced 24" o.c. screw-att to studs—2 layers gypsum panels screw-att to studs, 1 layer screw-att to chan—panels appl vert with joints stag—joints fin—perimeter caulked—UL Des U452

58

RAL-TL-83-215 (52 MTC)

SA-921

50

wt. 9

wt. 8

1-Hour Rated Partitions

Plaster steel-framed assemblies—non-load bearing



Steel Stud—Resil $\frac{5}{8}$ " IMPERIAL FIRECODE C gypsum base & veneer finish— $3\frac{5}{8}$ " studs 24" o.c.—3" THERMAFIBER SAFB 25" wide creased to fit cavity—RC-1 chan 24" o.c. screw att one side—base vert appl and screw att— $\frac{1}{16}$ " veneer finish—perimeter caulked—UL Des U451

55

SA-860635

SA-920

51

wt. 6



Steel Stud— $\frac{5}{8}$ " IMPERIAL FIRECODE gypsum base & veneer finish— $3\frac{1}{2}$ " studs 24" o.c.—single layer base vert or horiz appl & screw att—joints stag & taped— $\frac{1}{16}$ " to veneer finish—perimeter caulked—UL Des U465—based on panels horiz appl—GA-WP-1200

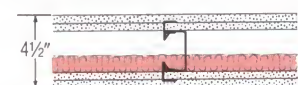
50

Based on 3" SAFB 25" wide, creased to fit cavity—SA-860620

SA-920

52

wt. 6



Steel Stud—Gypsum Lath & Plaster— $2\frac{1}{2}$ " studs 16" o.c.— $\frac{1}{2}$ " ROCKLATH base—1" MS clips or screw-att both sides—1" THERMAFIBER SAFB— $\frac{1}{2}$ " 100:2 gypsum sand plaster—perim caulked—OSU T-3937

49

CK-664-18

SA-920

53

wt. 5



Steel Stud—Gypsum Lath & Plaster— $2\frac{1}{2}$ " studs 16" o.c.— $\frac{1}{2}$ " ROCKLATH base—1" MS-1 clips or screw-att both sides— $\frac{1}{2}$ " 100:2 gypsum sand plaster—perim caulked—OSU T-4171

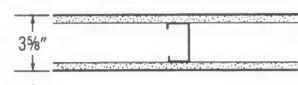
45

CK-664-17

SA-920

54

wt. 18



Steel Stud— $\frac{1}{2}$ " IMPERIAL FIRECODE C gypsum base & veneer finish— $2\frac{1}{2}$ " studs—base screw att—joints stag & taped— $\frac{1}{16}$ " veneer finish—perimeter caulked—stud spacing at 16" recommended—GA-WP-1240

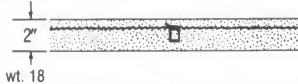
45

Based on $3\frac{5}{8}$ " studs 24" o.c. with 1" SAFB in cavity—CK-664-1

SA-920

55

wt. 8



2" Solid Metal Lath & Plaster— $\frac{3}{4}$ " cr chan 16" o.c.—2.5 lb. metal lath wire-tied to chan—100:2-100:2 gypsum sand plaster—MLA T-129 OSU

37

NBS-523 F45

SA-920

56

wt. 18

Plaster wood-framed assemblies—load bearing



Wd Stud—resil $\frac{5}{8}$ " IMPERIAL FIRECODE C gypsum base & veneer finish—2x4 16" o.c.—3" THERMAFIBER SAFB—RC-1 chan one side spaced 24" o.c.—base att with 1" Type S screws—opp side att direct with $1\frac{1}{4}$ " Type W screws— $\frac{1}{16}$ " veneer finish both sides—perimeter caulked—UL Des U311

52

SA-830702

SA-920

57

wt. 8



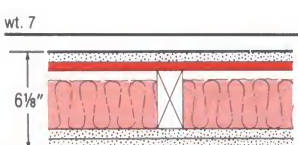
Wd Stud— $\frac{1}{2}$ " IMPERIAL FIRECODE C gypsum base att direct & veneer finish—2x4 16" o.c.—based nailed 7" o.c. 6d nails— $\frac{1}{16}$ " veneer finish—joints taped—U of C 10-27-64

N/A

SA-920

58

wt. 7



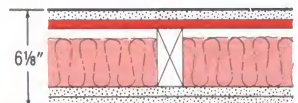
Wd Stud— $\frac{5}{8}$ " IMPERIAL FIRECODE C gypsum base & veneer finish—2x4 16" o.c.—2 layer base one side screw att & lamin—single layer opp side screw att to RC-1 chan—3" THERMAFIBER SAFB— $\frac{1}{16}$ " veneer finish both sides—perimeter caulked—est. fire rating based on UL Des U311

N/A

SA-920

59

wt. 7



Wd Stud—resil $\frac{5}{8}$ " IMPERIAL FIRECODE C gypsum base & veneer finish—2x4 16" o.c.—2 layer base one side screw att & lamin—single layer opp side screw att to RC-1 chan—3" THERMAFIBER SAFB— $\frac{1}{16}$ " veneer finish both sides—perimeter caulked—est. fire rating based on UL Des U311

53

CK-654-38

SA-920

60

wt. 11

Fire-rated construction

Detail & physical data

Description & test no.

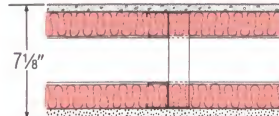
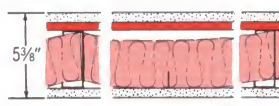
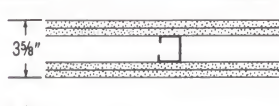
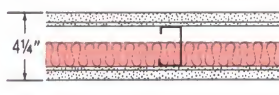
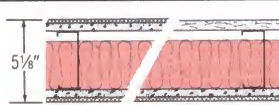
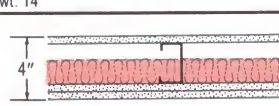
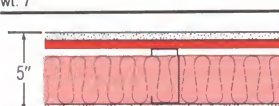
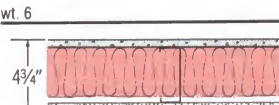
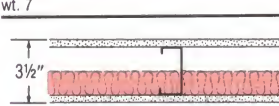
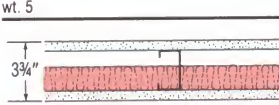
Acoustical performance

STC

Description & test no.

Folder reference

Drywall steel-framed assemblies—non-load bearing

 7 1/8" wt. 7	Plumbing Chase Wall—1 1/2" DUROCK interior cement board—1 5/8" studs 16" o.c. in two rows with horiz braces—1 1/2" THERMAFIBER SAFB in both stud cavities—board att with 1 1/4" DUROCK screws 8" o.c.—joints taped—5/8" SHEETROCK brand gypsum panels, FIRECODE C core—UL Des U458	57	Based on 358ST25 studs, 3" SAFB and 5/8" SHEETROCK brand gypsum panels, FIRECODE core— SA-840505	SA-932 61
 7 1/2" wt. 6	Resil Stud Drywall—1/2" SHEETROCK brand gypsum panels, FIRECODE C core—60SJ20 studs 24" o.c.—5" THERMAFIBER SAFB—RC-1 chan one side spaced 24" o.c. screw-att to studs—single-layer gypsum panels screw-att to studs & RC-1 chan—panels appl vert with joints stag—joints fin—perimeter caulked—UL Des U451	56 56	RAL-TL-87-139 (48 MTC) Based on 5/8" thick panels— RAL-TL-84-141 (50 MTC)	SA-921 62
 5 5/8" wt. 6	Steel Stud—resil 5/8" SHEETROCK brand gypsum panels, FIRECODE C core—3 5/8" studs 24" o.c.—3" THERMAFIBER SAFB 25" wide creased to fit cavity—RC-1 chan 24" o.c. screw att one side—panels appl vert & screw-att—joints stag & fin—perimeter caulked—UL Des U451	55 54	SA-850415 Based on 24" wide SAFB— USG-850409	SA-923 63
 3 5/8" wt. 9	Steel Stud—2 layers 1/2" SHEETROCK brand gypsum panels, ea side—1 5/8" studs 24" o.c.—panels appl vert & screw att—joints stag & fin—perimeter caulked—U of C 9-21-64	54	Based on SHEETROCK brand gypsum panels, FIRECODE C core, 2 1/2" studs & 1 1/2" SAFB— CK-654-40	SA-923 64
 4 1/4" wt. 7	Steel Stud—5/8" SHEETROCK brand gypsum panels, FIRECODE core—2 1/2" studs 24" o.c.—1 1/2" THERMAFIBER SAFB—2 layer—base layer 1/4" SHEETROCK brand gypsum panels, screw att—5/8" face layer screw att—joints fin—perimeter caulked—est. fire rating based on T-1174-OSU	55 53	CK-684-14 Based on 1/2" thick panels— CK-684-13	SA-923 65
 5 5/8" wt. 14	Steel Stud—1/2" DUROCK interior cement board and 1/4" ceramic tile—3 5/8" studs 16" o.c.—3" THERMAFIBER SAFB—board att with 1 1/4" DUROCK screws 8" o.c.—joint taped—alt based on 5/8" SHEETROCK brand gypsum panels, FIRECODE core, one side—UL Des U442	51 53	SA-840321 5/8" SHEETROCK brand gypsum panels, FIRECODE core, one side— SA-840313	SA-932 66
 4" wt. 7	Steel Stud—1/2" SHEETROCK brand gypsum panels, FIRECODE C core—2 1/2" studs 24" o.c.—single layer panels one side appl vert & screw att—1 1/2" THERMAFIBER SAFB one side—2 layers opp side—panels appl vert & screw att—joints stag & fin—perimeter caulked—est. fire rating based on T-3362-OSU	50 41	SA-800504 Based on same construction without SAFB— TL-69-148	SA-923 67
 5" wt. 6	Resil Stud Drywall—1/2" SHEETROCK brand gypsum panels, FIRECODE C core—35SJ20 studs 24" o.c.—3" THERMAFIBER SAFB—RC-1 chan one side spaced 24" o.c. screw-att to studs—single-layer gypsum panels screw-att to studs & RC-1 chan—panels appl vert with joints stag—joints fin—perimeter caulked—UL Des U451	50 54	RAL-TL-87-156 (42 MTC) Based on 5/8" thick panels— RAL-TL-83-216 (47 MTC)	SA-921 68
 4 3/4" wt. 7	Steel Stud—1/2" DUROCK interior cement board—3 5/8" studs 16" o.c.—3" min. THERMAFIBER SAFB—board att with 1 1/4" DUROCK screws 8" o.c.—joints taped—5/8" SHEETROCK brand gypsum panels, FIRECODE C core—UL Des U457	50 50	Based on 5/8" SHEETROCK brand gypsum panels, FIRECODE core— USG-821206 Based on 1/2" SHEETROCK brand gypsum panels, FIRECODE core— USG-821206	SA-932 69
 3 1/2" wt. 5	Steel Stud—1/2" SHEETROCK brand gypsum panels, FIRECODE C core—2 1/2" studs 24" o.c.—single layer panels ea side appl vert & screw att—1 1/2" THERMAFIBER SAFB—joints fin—perimeter caulked—UL Des U448	45 48	TL-69-42 Based on 3 5/8" studs & 2" SAFB— SA-800422	SA-923 70
 3 3/4" wt. 6	Steel Stud—5/8" SHEETROCK brand gypsum panels, FIRECODE core—2 1/2" studs 24" o.c.—1 1/2" THERMAFIBER SAFB—panels apply horiz & screw-att—joints opp—vert joints unfin—horiz joints fin—CEG 8-11-83—rating also applies to assembly with 1/2" SHEETROCK brand gypsum panels, FIRECODE C core, panels and joints fin—CEG 5-9-84	47	SA-831001	SA-923 71
 4 7/8" wt. 6	Steel Stud—5/8" SHEETROCK brand gypsum panels, FIRECODE core—3 5/8" studs 24" o.c.—single layer panels vert or horiz appl & screw att—joints stag & fin—perimeter caulked—UL Des U465—based on panels horiz appl—GA-WP-1200	40 49 51	USG-860808 Based on 3" SAFB in cavity panels— SA-870717 Based on 3" SAFB 25" wide, creased to fit cavity— TL-85-128	SA-923 72
 4 7/8" wt. 5	Steel Stud—5/8" SHEETROCK brand gypsum panels, FIRECODE core—1 5/8" studs 24" o.c.—single layer panels vert appl & screw att 12" o.c.—joints fin—perimeter caulked—U of C 7-31-62	38	USG-860809	SA-923 73

Fire-rated construction

Detail & physical data

Description & test no.

Acoustical performance

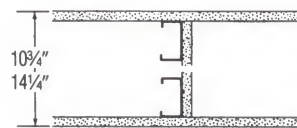
STC

Description & test no.

Folder

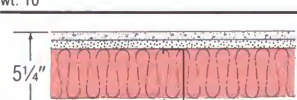
reference

Drywall steel-framed assemblies—non-load bearing (continued)

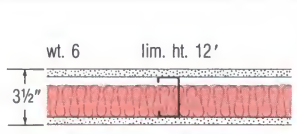
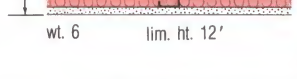
 wt. 8	Cavity Shaft Wall Gypsum Drywall— $\frac{5}{8}$ " SHEETROCK brand gypsum panels, FIRECODE C core, one side—1" SHEETROCK brand gypsum liner panels set betw USG steel C-H studs 24" o.c.—panels appl vert to side opp liner panels & screw att—joints fin—fire rating also applies with IMPERIAL FIRECODE C base and veneer finish surface— UL Des U469	N/A		SA-926 74
 wt. 17	Plumbing Chase Wall— $\frac{1}{2}$ " DUROCK interior cement board and $\frac{1}{4}$ " ceramic tile— $1\frac{1}{8}$ " studs 16" o.c. in two rows with horiz braces— $1\frac{1}{2}$ " THERMAFIBER SAFB—board att with $1\frac{1}{4}$ " DUROCK screws 8" o.c.—joints taped—alt based on $\frac{5}{8}$ " SHEETROCK brand gypsum panels, FIRECODE core, one side— UL Des U445	61 60	Based on 3" SAFB & $3\frac{5}{8}$ " studs— SA-840524 Based on 3" SAFB & $\frac{5}{8}$ " SHEETROCK brand gypsum panels, FIRECODE core, one side— SA-840515	SA-932 75
 wt. 17	Steel Stud Chase Wall— $\frac{5}{8}$ " SHEETROCK brand gypsum panels, FIRECODE core, ea side— $1\frac{1}{8}$ " studs 24" o.c. in 2 rows spaced $6\frac{1}{4}$ " apart— $\frac{5}{8}$ " gypsum panel gussets or steel run braces spanning chase screw att to studs—panels applied vert & screw att—joints stag & fin— UL Des U420	52	Based on $3\frac{1}{2}$ " insulation one side— TL-76-155	SA-923 76
 wt. 17	Steel Stud— $\frac{5}{8}$ " SHEETROCK brand gypsum panels, FIRECODE C core, ea side—fireproofed steel truss— $2\frac{1}{2}$ " studs 24" o.c. in 2 rows spaced 8" apart— $\frac{5}{8}$ " gypsum panel gussets spanning chase att to stud at qtr & ctr points—panels appl vert & screw att—joints stag & fin—includes 3-hr. truss— UL Des U805	N/A		SA-923 77

1-Hour Rated Partitions

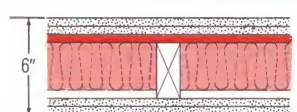
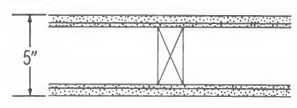
Drywall steel-framed assemblies—load bearing

 wt. 6	Load-bearing Steel Stud— $\frac{5}{8}$ " SHEETROCK brand gypsum panels, FIRECODE core—35SJ20 studs 24" o.c.—panels appl vert & att with 1" Type S-12 screws 12" o.c.—joints stag & fin— load bearing up to 100% allowable stud axial load—UL Des U425	40 41	USG-810519 Based on 2" SAFB in cavity— USG-810518	SA-923 78
 wt. 10	DbI layer $\frac{1}{2}$ " SHEETROCK brand gypsum panels, FIRECODE C core—35SJ20 studs 24" o.c.—1", $1\frac{1}{2}$ ", 2", or 3" THERMAFIBER SAFB—RC-1 chan one side spaced 24" o.c. screw att to studs—panels appl vert with joints stag—base layer att with 1" Type S-12 screws 12" o.c.—face layer att with $1\frac{1}{8}$ " Type S-12 screws 12" o.c.—joints fin—rating also applies with IMPERIAL FIRECODE C base and veneer finish surface— load bearing up to 100% allowable stud axial load—UL Des U440	61 51	Based on 35SJ16 studs, $\frac{5}{8}$ " thick panels, lateral bracing and 3" SAFB— SA-830628 Based on 35SJ16 studs and lateral bracing— SA-840715	SA-923 79
 wt. 10	Steel Stud— $\frac{1}{2}$ " DUROCK interior cement board—base layer $\frac{5}{8}$ " SHEETROCK brand gypsum panels, FIRECODE C core— $3\frac{1}{2}$ " studs 16" o.c.—3" THERMAFIBER SAFB—board att with $1\frac{1}{8}$ " DUROCK screws 8" o.c.—joints taped— UL Des U473	N/A		SA-932 80

Drywall relocatable assemblies—non-load bearing

 wt. 6 lim. ht. 12'	Rel ULTRAWALL Partn—concealed "H" studs 24" or 30" o.c.— $\frac{3}{4}$ " x 24" or 30" bevel edge ULTRAWALL gypsum panels—joints unfin—perim gaskets—based on 24" panels— U of C 8-18-67 —based on 30" panels— U of C 7-23-69	42 47	Based on 24" panels— BBN-701008 Based on 24" panels and 1" THERMAFIBER SAFB in cavity— BBN-701216	SA-1020 81
 wt. 6 lim. ht. 12'	Rel ULTRAWALL Partn—concealed "H" studs 24" o.c.—stl flr run—painted stl clg run with int tabs— $\frac{3}{4}$ " x 24" bevel edge ULTRAWALL gypsum panels—joints unfin— WHI-120-121 —based on alum clg run— WHI-495-0225/0226	N/A		SA-1020 82

Drywall wood-framed assemblies—load bearing

 wt. 12	Wd Stud—2 layers $\frac{1}{2}$ " SHEETROCK brand gypsum panels, FIRECODE C core, ea side—2x4 16" o.c.—3" THERMAFIBER SAFB—RC-1 chan one side spaced 24" o.c.—resil side screw att—opp side nail att—both base layers appl vert and face layers appl horiz—resil layers perim caulked—joints fin— UL Des U334	59 49	TL-67-239 Based on same construction without SAFB— TL-67-212	SA-924 83
 wt. 8	Wd Stud— $\frac{1}{2}$ " SHEETROCK brand gypsum panels, FIRECODE C core—2x4 16" o.c.—2 layer—base layer $\frac{1}{4}$ " SHEETROCK brand gypsum panels, appl vert with 4d ctd nails— $\frac{1}{2}$ " panel face layer strip lamin—joints stag & fin—perimeter caulked—est. fire rating based on UL Des U305	45 53	TL-69-52 Based on $\frac{5}{8}$ " lamin. face layers & $1\frac{1}{2}$ " SAFB— USG-221-ST-G&H	SA-924 84

Fire-rated construction

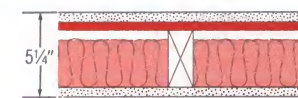
Detail & physical data

Description & test no.

Acoustical performance

STC Description & test no.

Folder reference



Wd Stud—resil partition $\frac{5}{8}$ " SHEETROCK brand gypsum panels, FIRECODE C core—2x4 16" o.c.—3" THERMAFIBER SAFB—RC-1 chan one side spaced 24" o.c.—panels att with 1" Type S screws—opp side direct att with $1\frac{1}{4}$ " Type W screws—joints fin—perimeter caulked—**UL Des U311**

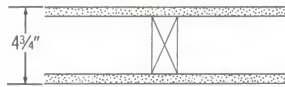
50

BBN-760903

SA-924

85

wt. 7



Wd Stud— $\frac{5}{8}$ " SHEETROCK brand gypsum panels, FIRECODE core, or SHEETROCK brand gypsum panels, water-resistant, FIRECODE core—2x4 16" or 24" o.c.—panels nailed 7" o.c.— $\frac{1}{8}$ " cem ctd nails—joints exp or fin—perim caulked—**UL Des U305** based on 16" stud spacing—**UL Des U314** based on 24" stud spacing with joints fin

34

Based on 16" stud spacing and screws
6" o.c.—**USG-30-FT-G&H**
Based on 24" stud spacing—
USG-860807

SA-924

86

wt. 7



Wd Stud—resil partition— $\frac{5}{8}$ " SHEETROCK brand gypsum panels, FIRECODE core—2x4 16" o.c.—RC-1 chan both sides spaced horiz 24" o.c.—panels att with 1" Type S screws—joints fin—perimeter caulked—**T-1396-OSU**

41

Based on RC-1 chan one side only—
USG-860802

SA-924

87

wt. 7



Wd Stud— $\frac{1}{2}$ " DUROCK interior cement board and $\frac{1}{4}$ " ceramic tile—2x4 16" o.c.— $3\frac{1}{2}$ " THERMAFIBER SAFB—board att with $1\frac{1}{8}$ " DUROCK screws or $1\frac{1}{2}$ " galv nails 8" o.c.—joints taped—**UL Des U329**

37

USG-840404

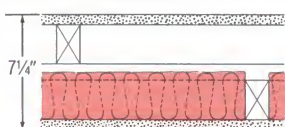
SA-932

88

Based on $\frac{5}{8}$ " SHEETROCK brand gypsum panels, FIRECODE core, one side—**USG-840314**

wt. 15

Drywall wood-framed assemblies—non-load bearing



Stag Wd Stud— $\frac{5}{8}$ " SHEETROCK brand gypsum panels, FIRECODE core—2x3 non-load bearing studs 16" o.c.—2x3 plates 1" apart—panels nailed 7" o.c.—3" THERMAFIBER SAFB one side—joints fin—perim caulked—est. fire rating based on UL Des U305

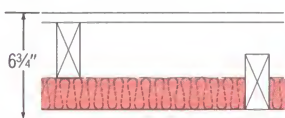
54

Based on screws or nails 7" o.c.—
TL-77-149

SA-924

89

wt. 8



Stag Wd Stud— $\frac{5}{8}$ " SHEETROCK brand gypsum panels, FIRECODE C core—2x4 16" o.c. on 2x6 cem plate—panels att with 6d ctd nails 7" o.c.—2" THERMAFIBER SAFB one side—perim caulked—joints fin—est. fire rating based on UL Des U305

45

TL-69-213

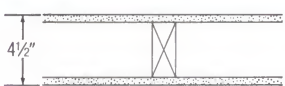
SA-924

90

wt. 8

45-Min. Rated Partitions

Drywall wood-framed assembly—load bearing



Wd Stud— $\frac{1}{2}$ " SHEETROCK brand gypsum panels, FIRECODE B core—2 x 4 16" o.c.—panels nailed 7" o.c.— $1\frac{1}{8}$ " cem ctd nails—joints exp or fin—**UL Des U317**

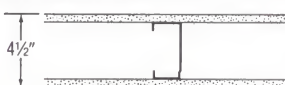
N/A

SA-924

91

wt. 6

Drywall steel-framed assembly—load bearing



$\frac{1}{2}$ " SHEETROCK brand gypsum panels, FIRECODE C core—35SJ20 studs 24" o.c.—panels appl vert & att with 1" Type S-12 screws 12" o.c.—joints fin—**load bearing up to 100% allowable stud axial load—UL Des U425**

47

Based on 3" SAFB in cavity—**SA-861001**

SA-923

92

wt. 6

Other Partitions

Drywall relocatable partitions—non-load bearing



Rel ULTRAWALL Partn—concealed "T" studs both sides 24" o.c.— $\frac{3}{4}$ " x 24" bevel edge ULTRAWALL gypsum panels— $1\frac{1}{2}$ " THERMAFIBER SAFB—joints stag & unfin—perimeter caulked—N/A

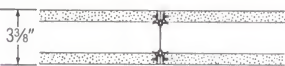
48

TL-70-251

SA-1020

93

wt. 7



Systems ULTRAWALL Partn—aluminum H-studs 24" o.c.—steel floor runner—ARL-300 ceiling runner— $\frac{3}{4}$ " x 24" bevel edge ULTRAWALL gypsum panels—perimeter gaskets—joints finished with vinyl trim—N/A

42

USG-850509

SA-1020

94

Based on same construction with $1\frac{1}{2}$ " THERMAFIBER SAFB—**USG-850510**

wt. 7

Clg. STC
range†Physical data
construction detailFire-rated construction
Description & test no.

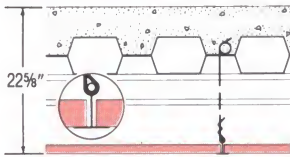
Comments

Folder
reference

Acoustical and Air Distributing Ceilings

3-Hour Rated Ceilings

Mineral fiber surfaces

35
to
3940
to
44

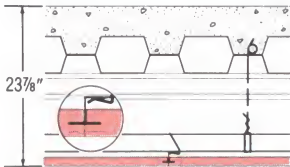
clg. wt. 12

AURATONE FIRECODE 5/8" x 24" x 48" acoust clg panels in Susp Exp Grid Syst—clg interrupted—light fixt prot by 1 1/4" THERMAFIBER min wool bd—2 1/2" conc on cellular stl fir—**UL Des A207**

Includes 4-hr. unrestrained beam

SA-905

1

45
to
49

clg. wt. 12

AURATONE FIRECODE 3/4" x 12" x 12" acoust clg tile on Concealed Z-runner Syst—clg interrupted—light fixt prot by 1 1/4" THERMAFIBER min wool bd—2 1/2" conc on cellular stl fir—**UL Des A009**

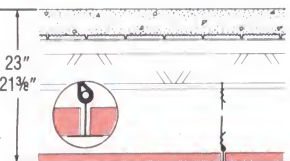
Includes 4-hr. unrestrained beam

SA-905

2

2-Hour Rated Ceilings

Mineral fiber surfaces

35
to
3940
to
44

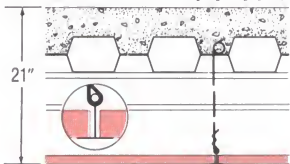
clg. wt. 12 --

AURATONE FIRECODE 5/8" x 24" x 48" or 24" x 24" acoust clg panels in Susp Exp Grid Syst—clg interrupted—light fixt prot by 5/8" AURATONE FIRECODE panels or 1 1/4" THERMAFIBER min wool bd—2 1/2" conc deck on riblath over bar joist—**UL Des G211—UL Des G227**

UL Des G227 is Shadowline System and includes 3-hr. unrestrained beam

SA-904
SA-905

3

35
to
3940
to
44

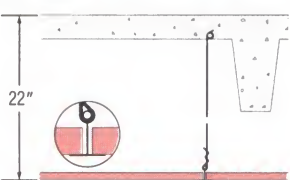
clg. wt. 12

AURATONE FIRECODE 5/8" x 24" x 48" or 24" x 24" or 20" x 60" acoust clg panels in Susp Exp Grid Syst—clg interrupted—light fixt prot by 5/8" AURATONE FIRECODE panels or 1 1/4" THERMAFIBER min wool bd—2 1/2" conc deck on cellular steel floor—**UL Des D201**

Includes 3-hr. unrestrained beam.

SA-905

4

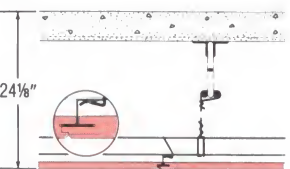
35
to
3940
to
44

clg. wt. 12

AURATONE FIRECODE 5/8" x 24" x 48" or 24" x 24" acoust clg panels in Susp Exp Grid Syst—clg interrupted—light fixt prot by 5/8" AURATONE FIRECODE panels or 1 1/4" THERMAFIBER min wool bd—2" prestressed conc units with 6" deep stems 48" o.c.—**UL Des J202**

SA-905

5

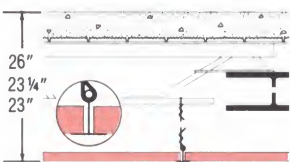
35
to
3940
to
44

clg. wt. 12

AURATONE FIRECODE 5/8" x 12" x 12" acoust clg tile on Concealed Z-runner Syst—clg interrupted—light fixt prot by 5/8" AURATONE FIRECODE panels or 1 1/4" THERMAFIBER min wool bd—2 1/2" conc deck on riblath over bar joist—**UL Des G019**

SA-905

7

35
to
3940
to
44

clg. wt. 12

AURATONE FIRECODE 3/4" x 24" x 24" to 30" x 60" or 20" x 60" acoust clg panels in Susp Exp Grid Syst—clg interrupted—light fixt prot by 5/8" AURATONE FIRECODE panels or 1 1/4" THERMAFIBER min wool bd—2 1/2" conc deck on riblath over bar joist—**UL Des G231**

Panels 5/8" thick also qualify, except in 30" x 60" size. Includes 3-hr. unrestrained beam.

SA-904
SA-905

8

AURATONE FIRECODE 5/8" x 24" x 48" or 36" x 24", 24" or 36" x 60", 20" or 30" x 60" acoust clg panels in Susp Exp Grid Syst—clg interrupted—light fixt prot by 5/8" AURATONE FIRECODE panels or 1 1/4" THERMAFIBER min wool bd—2 1/2" conc deck on riblath over bar joist—**UL Des G204**

Includes 2-hr. unrestrained beam

SA-904
SA-905

9

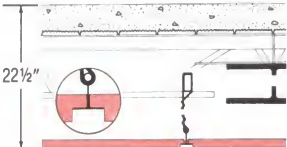
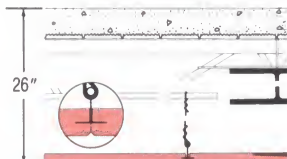
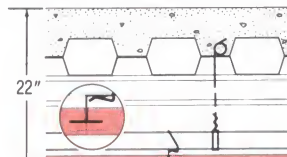
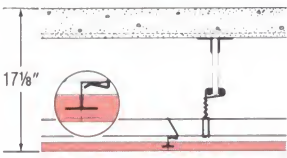
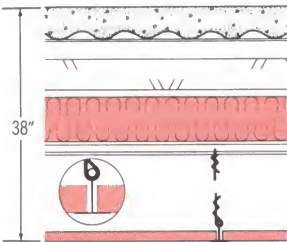
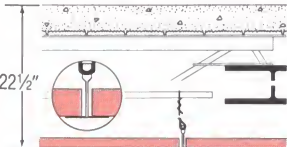
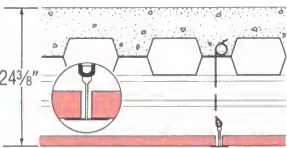
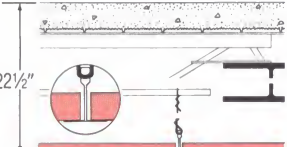
AURATONE FIRECODE 5/8" x 24" x 48" or 24" x 24" or 20" x 60" acoust clg panels in Susp Exp Grid Syst—clg interrupted—light fixt prot by 1 1/4" THERMAFIBER min wool bd—2 1/2" conc deck on riblath over bar joist—**UL Des G215**

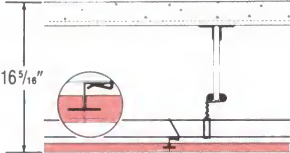
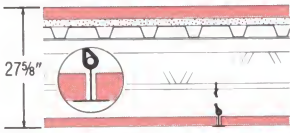
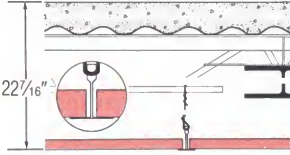
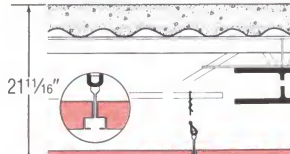
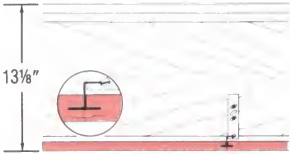
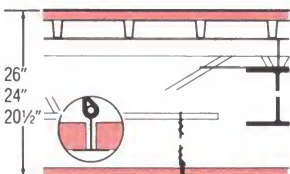
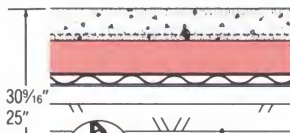
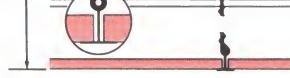
Includes 2-hr. unrestrained beam

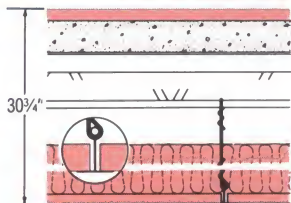
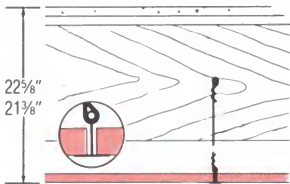
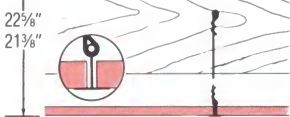
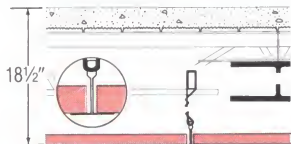
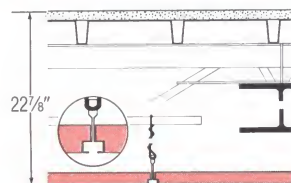
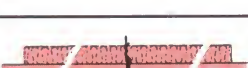
SA-905

10

†Per AMA 1-II test procedure for horizontally adjacent spaces.
See Ceiling Systems folder, SA-905, for STC values of various patterns.

Cfg. STC range†	Physical data Construction detail	Fire-rated construction Description & test no.	Comments	Folder reference
2-Hour Rated Ceilings				
Mineral fiber surfaces				
35 to 39		ACOUSTONE FIRECODE 3/4" x 24" x 24" min acoust panels on Exp Shadowline Grid Syst—clg interrupted—light fixt prot by 5/8" AURATONE FIRECODE panels or 1 1/4" THERMAFIBER min wool bd—2 1/2" conc deck on riblath over bar joist— UL Des G228	Includes 2-hr unrestrained beam	SA-905 11
35 to 39		AURATONE FIRECODE 5/8" x 12" x 12" or 24" x 24" acoust clg tile on Concealed Accessible Grid Syst—clg interrupted—light fixt prot by 1 1/4" THERMAFIBER min wool bd—2 1/2" conc deck on riblath over bar joist— UL Des G008	Includes 2-hr. unrestrained beam	SA-905 12
35 to 39	40 to 44		Includes 1 1/2 hr. unrestrained beam. Unrestrained assembly rating—1 1/2 hr.	SA-905 13
35 to 39	40 to 44			SA-905 14
35 to 39	40 to 44			SA-905 15
35 to 39	40 to 44		Includes 3-hr. unrestrained beam	SA-904. 16 SA-905
35 to 39	40 to 44		Includes 4-hr. unrestrained beam	SA-904 17 SA-905
35 to 39	40 to 44			SA-904 18 SA-905

Clg STC range†	Physical data Construction detail	Fire-rated construction Description & test no.	Comments	Folder reference
1½-Hour Rated Ceilings				
Mineral fiber surfaces				
35 to 39		ACOUSTONE FIRECODE ¾" x 12" x 12" min acoust tile on Concealed Z-runner Syst—2" conc deck on riblath over bar joist— UL Des G020		SA-905 19
clg. wt. 13				
35 to 39	40 to 44 	AURATONE FIRECODE 5/8" x 24" x 48" acoust clg panels in direct-hung Susp Exp Grid Syst—clg interrupted—light fix prot by 5/8" AURATONE FIRECODE panels—1" stl roof deck & 5/8" SHEETROCK brand gypsum panels, FIRECODE core & 1" min. fiber insul over bar joist— UL Des P233	No max. on insul. thickness. Unrestrained assembly rating—1 hr.	SA-904 20 SA-905
35 to 39	40 to 44 	AURATONE FIRECODE 5/8" x 24" x 48" or 24" x 24" acoust clg panels in direct-hung Susp Exp Grid Syst—clg interrupted—light fix prot by 5/8" AURATONE FIRECODE panels or 1 1/4" THERMAFIBER min wool bd—1 1/2" stl roof deck & 5/8" SHEETROCK brand gypsum panels, FIRECODE core & 2" min fiber insul over bar joist— UL Des P230	No max. on insul. thickness. Unrestrained assembly and beam rating—1 hr.	SA-904 21 SA-905
clg. wt. 12				
35 to 39	40 to 44 	AURATONE FIRECODE 5/8" x 2' x 2' acoust clg panels in Susp Exp Grid Syst—clg interrupted—light fix prot by 5/8" AURATONE FIRECODE panels—2 1/2" conc on corrug steel deck over bar joist— UL Des G262		SA-904 22 SA-905
35 to 39	40 to 44 	AURATONE FIRECODE 5/8" x 2' x 2' acoust clg panels in Susp Exp Grid Syst—clg interrupted—light fix prot by 5/8" AURATONE FIRECODE panels—2 1/2" conc on corrug steel deck over bar joist— UL Des G264		SA-904 23 SA-905
1-Hour Rated Ceilings				
Mineral fiber surfaces				
35 to 39		ACOUSTONE FIRECODE ¾" x 12" x 12" min acoust tile on Concealed Z-runner Syst—1" nom wd sub & fin floor over wd joist 16" o.c.— UL Des L003		SA-905 24
clg. wt. 13				
35 to 39	40 to 44 	AURATONE FIRECODE 5/8" x 24" x 48" acoust clg panels in Susp Exp Grid Syst—clg interrupted—light fix prot by 1 1/4" THERMAFIBER min wool bd—1 1/2" stl roof deck & 1" noncomb insul over bar joist— UL Des P214	Includes 1-hr. unrestrained beam	SA-905 25
35 to 39	40 to 44 	AURATONE FIRECODE 5/8" x 24" x 48" acoust clg panels in Susp Exp Grid Syst—clg interrupted—light fix prot by 1 1/4" THERMAFIBER min wool bd—1 1/2" stl roof deck & 1/2" SHEETROCK brand gypsum panels & 1" rigid foam plastic insul over bar joist— UL Des P235	Includes 1-hr. unrestrained beam. Max. 8" insul. thickness	SA-905 26
clg. wt. 1.2				
35 to 39	40 to 44 	AURATONE FIRECODE 5/8" x 24" x 48" or 24" x 24" or 20" x 60" acoust clg panels in Susp Exp Grid Syst—clg interrupted—light fix prot by 1 1/4" THERMAFIBER min wool bd—2" vermiculite conc & 2" foamed plastic insul & corrug stl roof deck over bar joists— UL Des P246	Includes 1-hr. unrestrained beam	SA-905 28
35 to 39	40 to 44 	AURATONE FIRECODE 5/8" x 24" x 48" or 24" x 24" acoust clg panels in Susp Exp Grid Syst—clg interrupted—light fix prot by 5/8" AURATONE FIRECODE panels—2" vermiculite conc. & 2" foamed plastic insul & corrug stl roof deck over bar joists— UL Des P255	Includes 1-hr. unrestrained beam	SA-904 29 SA-905
clg. wt. 1.2				

Clg. STC range†	Physical data Construction detail	Fire-rated construction Description & test no.	Comments	Folder reference
35 to 39	40 to 44 	AURATONE FIRECODE 5/8" x 24" x 48" or 24" x 24" in Susp Exp Grid Syst—clg interrupted—light fix prot by 5/8" AURATONE FIRECODE panels—6" insul batts over clg—3/4" noncomb insul and 2" metal-edge conc plank over bar joists— UL Des P245		SA-905 30
35 to 39	40 to 44 clg. wt. 1.2 	AURATONE FIRECODE 5/8" x 24" x 48" or 24" x 24" acoust clg panels in Susp Exp Grid Syst—clg interrupted—light fix prot by 5/8" AURATONE FIRECODE panels or 1 1/4" THERMAFIBER min wool bd—1" non wd sub & fin flr over 2x10 wd joist— UL Des L206		SA-904 31 SA-905
35 to 39	40 to 44 clg. wt. 1.2 	AURATONE FIRECODE 5/8" x 24" x 48" or 24" x 60" or 3/4" x 24" x 24" in Susp Exp Grid Syst—clg interrupted—light fix prot by 5/8" AURATONE FIRECODE panels or 1 1/4" THERMAFIBER min wool bd—1" non wd sub & fin flr over 2x10 wd joists— UL Des L202		SA-905 32
35 to 39	40 to 44 	AURATONE FIRECODE 5/8" x 2' x 4' acoust clg panels in Susp Exp Grid Syst—clg interrupted—2" conc on riblath over bar joist— UL Des G201		SA-904 33 SA-905
35 to 39	40 to 44 	AURATONE FIRECODE 3/4" x 2' x 2' acoust clg panels in Susp Exp Grid Syst—clg interrupted—light fix prot by 5/8" AURATONE FIRECODE panels—1 1/2" steel roof deck & rigid foam plastic insul over bar joist— UL Des P254	Includes 3/4-hr. unrestrained beam	SA-904 34 SA-905
Noncombustible Ceilings				
35 to 39		ACOUSTONE "F" Foil-Backed 3/4" x 12" x 24" or 12" x 36" min acoust tile on 1-Way Exp Grid Syst— ASTM E84	One-way exposed grid system for accessibility	SA-905 35
40 to 44		ACOUSTONE Foil-Backed Fissured or Glacier 3/4" x 12" x 12" min acoust tile on concealed 100% Accessible Direct-hung Susp Syst— ASTM E84	Basic direct-hung concealed accessible system	SA-905 36
35 to 39		ACOUSTONE "F" 3/4" x 12" x 12" or 12" x 24" min. acoust tile on Concealed Z-runner Syst— ASTM E84	Basic concealed spline acoustical tile system; STC estimated	SA-905 37
40 to 44		5/8" or 3/4" x 24" x 24" or 24" x 48" acoust clg panels in Susp Exposed Grid Syst— ASTM E84	Basic noncombustible lay-in panels; NRC varies with pattern	SA-905 38
48		AURATONE 5/8" x 24" x 48" acoust clg panels in Susp Exp Grid Syst—contin over partn—3" THERMAFIBER SAFB over clg— ASTM E84	Sound test USG-820406 includes blankets extending 4 ft. each side of partition	SA-905 39

†Per AMA 1-II test procedure for horizontally adjacent spaces.
See Ceiling Systems folder, SA-905, for STC values of various patterns.

Fire-rated construction

Detail & physical data

Description & test no.

Acoustical performance

STC

IIC

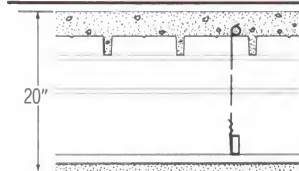
Description & test no.

Folder reference

Gypsum Drywall and Plaster Ceilings

4-Hour Rated Ceiling

Plaster surface



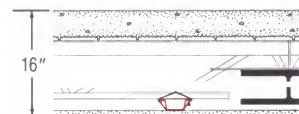
3/4" cold rolled channel 13" o.c. suspended 3 1/2" below beam—3.4# diamond mesh metal lath & 7/8" STRUCTO-LITE (Type S) gypsum plaster—2" concrete over fluted steel floor—**UL Des D401**

N/A

SA-920 **40**

3-Hour Rated Ceilings

Gypsum drywall and plaster surfaces

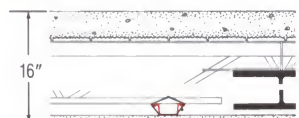


5/8" SHEETROCK brand gypsum panels, FIRECODE C core—met fur chan 24" o.c.—panels att with 1" Type S screws 12" o.c.—joints exp or fin—2 1/2" conc on corrugated steel deck or riblath over bar joist—includes 3-hr. unrestrained beam—**UL Des G512**

N/A

SA-923 **41**

clg. wt. 3

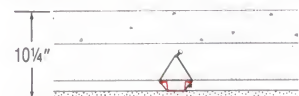


5/8" IMPERIAL FIRECODE C gypsum base & veneer finish ceiling—met fur chan—base att with 1" Type S screws 12" o.c.—joints exp or taped—1/16" veneer finish—2 1/2" conc on corrugated steel deck or riblath over bar joist—furring channel spacing at 16" o.c. recommended—**UL Des G512**

N/A

SA-920 **42**

clg. wt. 4

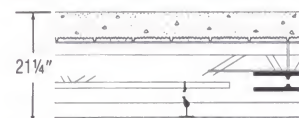


5/8" SHEETROCK brand gypsum panels, FIRECODE C core—met fur chan 24" o.c.—panels att with 1" Type S screws—joints fin—prestressed 2 3/4" reg or 2 1/2" lightwt conc units with 6" deep stems 48" o.c.—**UL Des J502—UL Des J503—UL Des J504**

N/A

SA-920 **43**

clg. wt. 3

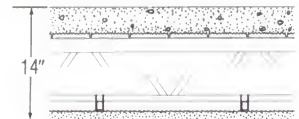


1/2" SHEETROCK brand gypsum panels, FIRECODE C core—susp grid with main run 4" o.c. and cross tees 2" o.c.—gypsum panels screw-att below grid—joints fin—3 1/4" conc on riblath over bar joist—rating also applies with 5/8" panels and 2 3/4" conc slab—includes 3-hr. unrestrained beam—**UL Des G529**

N/A

SA-923 **44**

clg. wt. 3



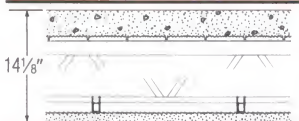
3/4" cold rolled channel furred or suspended—3.4# diamond mesh lath & 7/8" neat wood fiber gypsum plaster—2 1/2" concrete on riblath or 28-ga. corrugated steel deck over bar joist—**BMS-92, R4024-12**

N/A

SA-920 **45**

2 1/2-Hour Rated Ceiling

Plaster surface



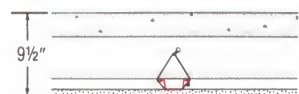
3/4" cold rolled channel furred or suspended—3.4# diamond mesh lath & 3/4" 100:1-100:1 gypsum wood fiber-sand plaster—2 1/2" concrete on riblath or 28-ga. corrugated steel deck over bar joist—**UL Des R5429-1, R4024-12**

N/A

SA-920 **46**

2-Hour Rated Ceilings

Gypsum drywall and plaster surfaces

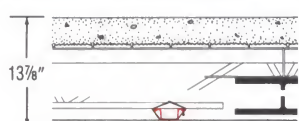


5/8" SHEETROCK brand gypsum panels, FIRECODE C core—met fur chan 24" o.c.—panels att with 1" Type S screws—joints fin—2" prestressed reg or lightwt conc units with 6" deep stems 48" o.c.—**UL Des J502—UL Des J503**

N/A

SA-904 **47**
SA-923

clg. wt. 3



1/2" SHEETROCK brand gypsum panels, FIRECODE C core—furred or susp—met fur chan 24" o.c.—panels att with interrupted clg. & 1 1/2" sound atten 1" Type S screws 12" o.c.—joints exp or fin—2 1/2" conc on riblath or corrug stl deck over bar joist—includes 2-hr. unrestrained beam—**UL Des G515**

54

Ceiling STC rating based on furred interrupted & 1 1/2" SAFB extendg. 4' beyond partn.—**USG-189-FT-G&H†**

SA-923 **48**

clg. wt. 3

†Per AMA-II test procedures for horizontally adjacent spaces.

Fire-rated construction

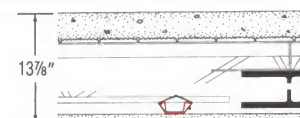
Detail & physical data

Description & test no.

Acoustical performance

STC IIC Description & test no.

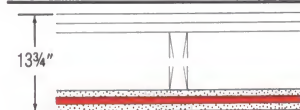
Folder reference



clg. wt. 4

1 1/2" IMPERIAL FIRECODE C gypsum base & veneer finish ceiling furred or susp—met fur chan—base att with screws 12" o.c.—joints taped—1/16" veneer finish—2 1/2" conc on riblath over bar joist—furring channel spacing at 16" o.c. recommended—**UL Des G515**

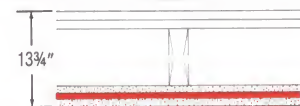
N/A

SA-920 **49**

clg. wt. 5

Resil ceiling—2 layers 5/8" SHEETROCK brand gypsum panels, FIRECODE C core—1" nom wd sub & fin flr—2x10 wd joist 16" o.c.—RC-1 chan spaced 24" o.c. screw att over base layer panels—face layer screw att to chan 12" o.c.—joints fin—**UL Des L511**

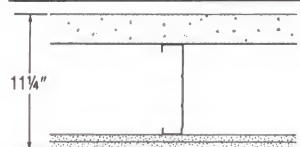
N/A

SA-924 **50**

clg. wt. 5

Resil 2 layers 5/8" IMPERIAL FIRECODE C gypsum base & veneer finish ceiling—1" nom wd sub & fin flr—2x10 wd joist 16" o.c.—RC-1 chan screw att over base layer—face layer screw att to chan 12" o.c.—1/16" veneer finish—joints taped—**UL Des L511**

N/A

SA-920 **51**

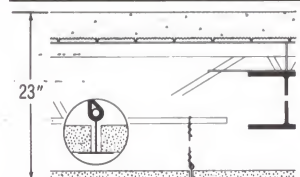
clg. wt. 5

5/8" SHEETROCK brand gypsum panels, FIRECODE C core—75SJ18 steel joists 24" o.c.—2 1/2" conc flr over corrug steel deck—dbl layer gypsum panel ceiling—base panels att with 1" Type S-12 screws 12" o.c.—face panels att with 1 1/8" Type S-12 screws 12" o.c.—joints stag and fin—est. fire rating based on witnessed laboratory test.

44

73

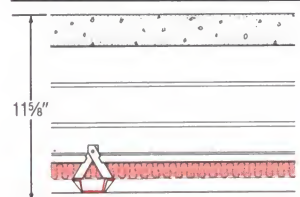
KAL-443533
Based on carpet & pad—
KAL-443680
Based on RC-1 resil chan.
24" o.c.—**KAL-443534**

SA-923 **52**

clg. wt. 2

1/2" x 24" x 24" USG FIRECODE gypsum ceiling panels on Susp Exp Grid Syst—clg interrupted—light fix prot by 5/8" AURATONE FIRECODE panels or 1 1/4" THERMAFIBER min wool bd—2 1/2" conc deck on riblath over bar joist—includes 2-hr. unrestrained beam—**UL Des G222**—fire rating 1 1/2 hr. with 1/2" x 24" x 48" panels; includes 1 1/2-hr. unrestrained beam—**UL Des G592**

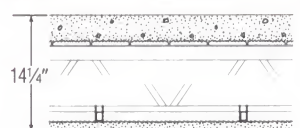
N/A

SA-904
SA-905 **53**

clg. wt. 3

1/2" SHEETROCK brand gypsum panels, FIRECODE C core—725SJ18 steel joists 24" o.c.—2" conc flr on corrug steel deck—met fur chan 24" o.c. clip-att to joist—1" THERMAFIBER insul laid over chan below joist—panels screw-att to chan 12" o.c.—joints fin—**UL Des G533**

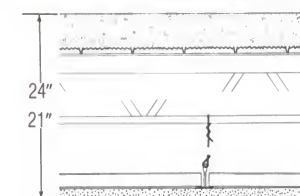
N/A

SA-923 **54**

14 1/4"

3/4" cold rolled channel furred or suspended—3.4# diamond mesh lath & 5/8" 100-2-100-3 gypsum-sand plaster—2 1/2" concrete on riblath or 28-ga. corrugated steel deck over bar joist—**BMS-92, R4024-12**

N/A

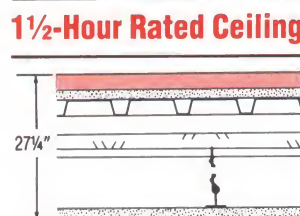
SA-920 **55**

24"

21"

1/2" or 5/8" SHEETROCK brand gypsum panels, FIRECODE C core—gypsum panels screw-att below grid with 1" Type S screws 12" o.c.—joints exp or fin—2 1/2" conc on riblath or steel deck over bar joist—includes 2-hr and 3-hr unrestrained beam—**UL Des G523**

N/A

SA-904
SA-905 **56**

clg. wt. 4

5/8" SHEETROCK brand gypsum panels, FIRECODE C core—susp grid with main run 4" o.c. and cross tees 2" o.c.—gypsum panels screw-att below grid—joints stag and fin—min 1" roof insul and 5/8" gypsum bd on steel deck over bar joists—1-hr. rating based on assembly with 1/2" thick panels—**UL Des P510**

N/A

SA-904
SA-923 **58**

1 1/2-Hour Rated Ceilings

Gypsum drywall and plaster surfaces

Fire-rated construction

Detail & physical data

Description & test no.

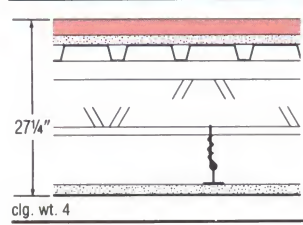
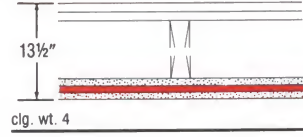
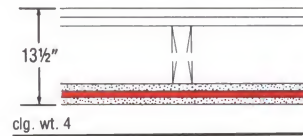
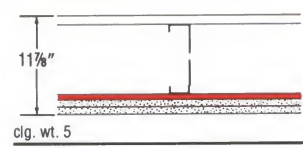
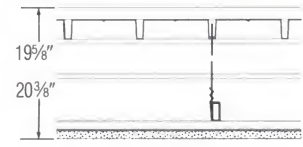
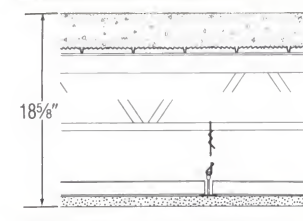
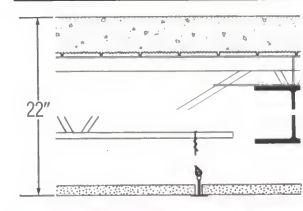
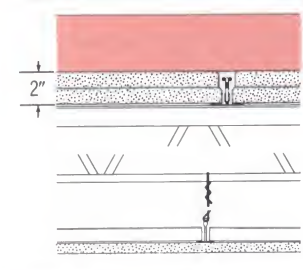
Acoustical performance

STC IIC Description & test no.

Folder reference

1½-Hour Rated Ceilings

Gypsum drywall and plaster surfaces (continued)

 27 1/4" clg. wt. 4	5/8" IMPERIAL FIRECODE C gypsum base & veneer finish ceiling—susp grid with main run 4" o.c. & cross tees 2" o.c.—base screw-att below grid—joints stag & taped—min 1" roof insul & 5/8" assembly with 1/2" thick base—UL Des P510	N/A	SA-904 SA-920	59
 13 1/2" clg. wt. 4	Resil ceiling—2 layers 1/2" SHEETROCK brand gypsum panels, FIRECODE C core—1" nom wd sub & fin flr—2x10 wd joist 16" o.c.—RC-1 chan spaced 24" o.c. screw att over base layer panels—face layer screw att to chan 12" o.c.—joints fin—UL Des L510	34	USG-22648 SA-924	60
 13 1/2" clg. wt. 4	Resil 2 layers 1/2" IMPERIAL FIRECODE C gypsum base & veneer finish ceiling—1" nom wd sub & fin flr—2x10 wd joist 16" o.c.—RC-1 chan 24" o.c. screw-att over base layer—face layer screw att to chan 12" o.c.—1/16" veneer finish—joints taped—UL Des L510	N/A	SA-920	61
 11 1/8" clg. wt. 5	Resil ceiling—5/8" SHEETROCK brand gypsum panels, FIRECODE C core—3/4" T & G plywd flr att to joists with Type S-12 screws 24" o.c.—95SJ16 steel joists 24" o.c.—dbl layer gypsum panel clg att to RC-1 chan screw att to joist 16" o.c.—base panels att with 1" Type S screws 24" o.c.—face panels att with 1 5/8" Type G screws 8" o.c. at butt joints, 1 5/8" Type S screws 12" o.c. in field—joints fin—UL Des L527	48 51	USG-771101 Based on carpet & pad—SA-781110 SA-920	62
 19 5/8" 20 3/8"	Suspended 3.4# diamond mesh metal lath & 3/4" 100:2-100:3 gypsum-sand plaster—rib type steel roof deck with 1" wood-fiber insulation—NBS-57	N/A	SA-920	63
	Suspended 3.4# diamond mesh metal lath & 1" 100:2 gypsum-sand plaster—rib type steel roof deck with 1 1/2" wood-fiber insulation—NBS-57	N/A	SA-920	64
 18 5/8"	1/2" or 5/8" SHEETROCK brand gypsum panels, FIRECODE C core—gypsum panels screw-att below grid with 1" Type S screws 12" o.c.—joints stag & fin—2 1/2" conc on riblath over bar joist—UL Des G528	N/A	SA-904 SA-905	65
 22"	1/2" x 2" x 4" USG FIRECODE gypsum ceiling panels in Susp Exp Grid Sys—clg interrupted—2 1/2" conc on riblath over bar joist—UL Des G259	N/A	SA-904 SA-905	66
 2"	5/8" SHEETROCK brand gypsum panels, FIRECODE C core—gypsum panels screw-att below grid with 1" Type S screws 12" o.c.—joints stag & fin—gypsum plank & insul bd over bar joist—UL Des P506	N/A	SA-904 SA-905	67

Fire-rated construction

Detail & physical data

Description & test no.

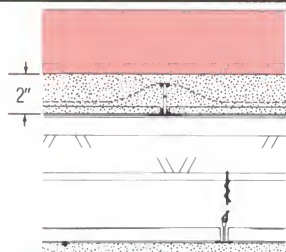
Acoustical performance

STC IIC Description & test no.

Folder reference

1¼-Hour Rated Ceiling

Gypsum drywall surface



½" or ⅝" SHEETROCK brand gypsum panels, FIRECODE C core—met fur chan—panels att with 1" Type S screws 6" o.c.—joints stag & fin—gypsum conc and rigid foam plas insul over bar joist—includes 1-hr. unrestrained beam—UL Des P507

N/A

SA-904
SA-905

68

1-Hour Rated Ceilings

Gypsum drywall surfaces



clg. wt. 3

⅝" SHEETROCK brand gypsum panels, FIRECODE core—1" nom wd sub & fin flr—2x10 wd joist 16" o.c.—3" THERMAFIBER SAFB betw joists—panel att with 6d nails 6" o.c.—joints fin—est. fire rating based on UL Des L501

41 32
40 58

CK-6412-6
Based on 44-oz carpet & 40-oz pad atop flooring—**CK-6412-5**

SA-924

69



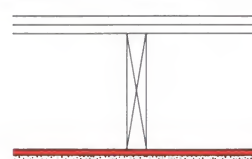
clg. wt. 3

Resil ceiling—⅝" SHEETROCK brand gypsum panels, FIRECODE C core—1½" perlite-sand conc over ⅝" plywd subflr—2x10 wd joists 16" o.c.—3" glass fiber batts betw joists—RC-1 chan screw att to joists—panels att with 1" Type S screws—joints fin—UL Des L516

N/A

SA-924

70



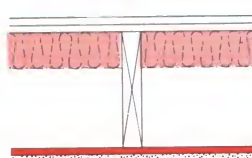
clg. wt. 3

Resil ceiling—½" SHEETROCK brand gypsum panels, FIRECODE B core—1" nom wd sub & fin flr—2x10 wd joist 16" o.c.—RC-1 chan screw att to joists—panels att with 1" Type S screws—joints fin—est. fire rating based on UL Des L514

N/A

SA-924

71



clg. wt. 3

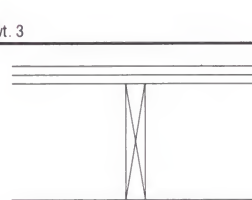
Resil ceiling—SHEETROCK brand gypsum panels, FIRECODE core—1¼" nom wd sub & fin flr—2x10 wd joist 16" o.c.—RC-1 chan screw att to joists—panels att with 1" Type S screws—joints fin—est. fire rating based on UL Des L514

47 39
47 39

Based on ½" SHEETROCK brand gypsum panels, FIRECODE C core—**CK-6512-6**
Based on ⅝" SHEETROCK brand gypsum panels, FIRECODE core—**CK-6412-10**

SA-924

72



clg. wt. 3

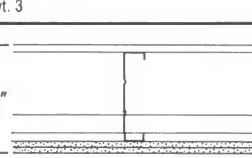
Resil ceiling—SHEETROCK brand gypsum panels, FIRECODE core—1¼" nom wd sub & fin flr—44-oz carpet & 40-oz pad atop flr—2x10 wd joist 16" o.c.—RC-1 chan screw att to joists—panels att with 1" Type S screws—joints fin—est. fire rating based on UL Des L514

47 67
48 66

Based on ½" SHEETROCK brand gypsum panels, FIRECODE C core—**CK-6512-7**
Based on ⅝" SHEETROCK brand gypsum panels, FIRECODE core—**CK-6412-9**

SA-924

73



clg. wt. 3

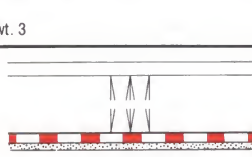
Resil ceiling—SHEETROCK brand gypsum panels, FIRECODE core—1¼" nom wd sub & fin flr—2x10 wd joist 16" o.c.—3" THERMAFIBER SAFB betw joists—RC-1 chan screw att to joists—panels att with 1" Type S screws—joints fin—est. fire rating based on UL Des L514

51 46
50 46

Based on ½" SHEETROCK brand gypsum panels, FIRECODE C core—**CK-6512-9**
Based on ⅝" SHEETROCK brand gypsum panels, FIRECODE core—**CK-6412-3**

SA-924

74



clg. wt. 3

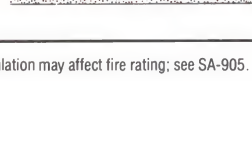
Resil ceiling—SHEETROCK brand gypsum panels, FIRECODE core—1¼" nom wd sub & fin flr—44-oz carpet & 40-oz pad atop flr—2x10 wd joist 16" o.c.—3" THERMAFIBER SAFB betw joists—RC-1 chan screw att to joists—panels att with 1" Type S screws—joints fin—est. fire rating based on UL Des L514

52 71
51 70

Based on ½" SHEETROCK brand gypsum panels, FIRECODE C core—**CK-6512-8**
Based on ⅝" SHEETROCK brand gypsum panels, FIRECODE core—**CK-6412-4**

SA-924

75



clg. wt. 3

⅝" SHEETROCK brand gypsum panels, FIRECODE core, ceiling—1" nom wd sub & fin flr—2x10 wd joist 16" o.c.—panels att with 6d nails 6" o.c.—joints fin—UL Des L501

38 32
39 56

CK-6412-7
Based on 44-oz carpet & 40-oz pad atop flooring—**CK-6412-8**

SA-924

76



clg. wt. 3

½" SHEETROCK brand gypsum panels, FIRECODE B core, ceiling—1" nom wd sub & fin flr—2x10 wd joist 16" o.c.—panels att with 5d cem ctd nails 6" o.c.—joints fin—UL Des L512

N/A

SA-924

77



clg. wt. 3

½" SHEETROCK brand gypsum panels, FIRECODE C core—725SJ18 steel joists 24" o.c.—dbl layer gypsum panel clg and ⅝" T&G plywd flr att to joists with Type S-12 screws—dbl layer gypsum panels around beam—joints exp—includes unrestrained beam—UL Des L524

39 43

Based on 95SJ16 joists—**USG-760105**
Based on 95SJ16 joists and 3" SAFB*—**USG-760310**
Based on 95SJ16 joists and carpet & pad—**USG-760106**
Based on 95SJ16 joists and carpet & pad with 3" SAFB*—**USG-760405**

SA-923

78



clg. wt. 3

⅝" SHEETROCK brand gypsum panels, FIRECODE core, ceiling—Amer Plywood Assn 2-4-1 flr 4x10 wd joist 48" o.c.—met fur chan spaced 24" o.c.—panels att with 1" Type S screws—joints fin—UL Des L508

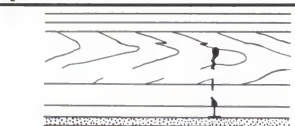
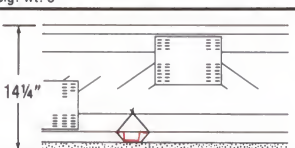
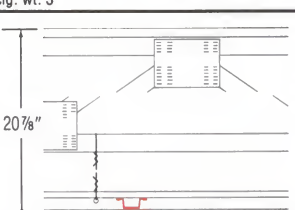
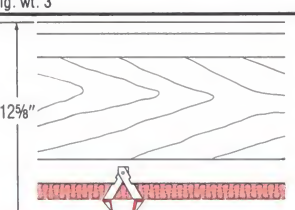
N/A

SA-924

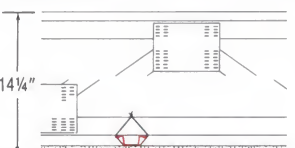
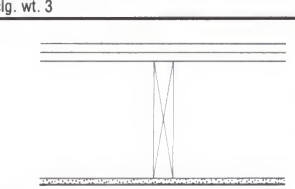
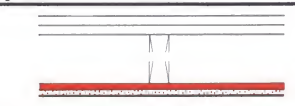
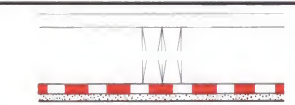
79

*Insulation may affect fire rating; see SA-905.

Fire-rated construction

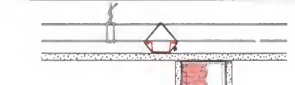
Detail & physical data	Description & test no.	Acoustical performance			Folder reference
		STC	NC	Description & test no.	
 clg. wt. 3	5/8" SHEETROCK brand gypsum panels, FIRECODE C core—75SJ18 steel joists 24" o.c.—2 1/2" conc flr on corrug steel deck—gypsum panel ceiling att to joists with 1" Type S-12 screws 12" o.c.—joints fin—est. fire rating based on witnessed laboratory test	45	70	Based on RC-1 resil chan 24" o.c.— KAL-443536	SA-904 SA-923 80
 clg. wt. 3	1/2" or 5/8" SHEETROCK brand gypsum panels, FIRECODE C core, ceiling—1" nom wd sub & fin flr—2x10 wd joist 16" o.c.—susp grid with main run 4" o.c. and cross tees 2" o.c.—panels screw-att below grid—joints fin— UL Des L525	N/A			SA-924 81
 clg. wt. 3	5/8" SHEETROCK brand gypsum panels, FIRECODE C core, ceiling—2x12 wd truss of 2x4 lbr secured with steel truss plates—trusses 24" o.c.—3/4" nom plywd flr—met fur chan 24" o.c. wire-tied to trusses—panels att with 1" Type S screws 12" o.c.—joints fin— UL Des L528*	N/A			SA-924 82
 clg. wt. 3	5/8" SHEETROCK brand gypsum panels, FIRECODE C core, ceiling—2x12 wd truss of 2x4 lbr secured with steel truss plates—trusses 24" o.c.—3/4" nom plywd flr—susp grid with main run 4" o.c. and cross tees 2" o.c.—panels att with 1" Type S-12 screws 12" o.c.—joints fin— UL Des L529	N/A			SA-904 SA-920 SA-924 83
 clg. wt. 3	1/2" SHEETROCK brand gypsum panels, FIRECODE C core, ceiling—3/4" T&G plywd flr—10" I-shaped wd joist 24" o.c.—met fur chan 24" o.c. clip-att to joist—1" THERMAFIBER insul laid over chan below joists—panels screw att to chan 12" o.c.—joints fin— UL Des L530 based on Trus Joist members— UL Des L531	47	40 54 43	TL-81-87—IN-81-16 Based on carpet & pad atop flooring— IN-81-17 Based on cushioned vinyl atop flooring— IN-81-19	SA-924 84

Plaster assemblies

 clg. wt. 3	5/8" IMPERIAL FIRECODE C gypsum base and veneer finish ceiling—2 x 12 wd truss 24" o.c.—3/4" nom plwd flr—met fur chan 24" o.c. wire-tied to trusses—base att with 1" Type S screws 12" o.c.—1/16" veneer finish—joints taped— UL Des L528*	N/A			SA-920 85
 clg. wt. 3	1/2" IMPERIAL FIRECODE C gypsum base & veneer finish ceiling—2x10 wd joist 16" o.c.—1" nom wd sub & fin flr—gypsum base att with 5d nails 6" o.c.—1/16" veneer finish—joints taped— UL Des L512	N/A			SA-920 86
 clg. wt. 3	5/8" IMPERIAL FIRECODE gypsum base & veneer finish ceiling—1" nom wd sub & fin flr—2x10 wd joist 16" o.c.—base att with 6d nails 6" o.c.—1/16" veneer finish—joints taped— UL Des L501	N/A			SA-920 87
 clg. wt. 3	Resil 1/2" IMPERIAL FIRECODE C gypsum base & veneer finish ceiling—2x10 wd joist 16" o.c.—1" nom wd sub & fin flr—RC-1 chan spaced 16" o.c. and at end joints—base att with Type S screws 12" o.c.—1/16" veneer finish—joints taped— UL Des L514	N/A			SA-920 88
 clg. wt. 3	5/8" IMPERIAL FIRECODE gypsum base & veneer finish ceiling—Amer Plywood Assn 2-4-1 flr 4x10 wd joist 48" o.c.—met fur chan—base att with 1" Type S screws 12" o.c.—1/16" veneer finish—joints taped—furring channel spacing at 16" o.c. recommended— UL Des L508	N/A			SA-920 89

Noncombustible Ceiling

Gypsum drywall surface

 clg. wt. 3	5/8" SHEETROCK brand gypsum panels, FIRECODE core—1 1/2" cr chan 4" o.c.—met fur chan 24" o.c.—panels screw att 12" o.c.—joints fin—N/A	45		Ceiling STC rating—suspension and ceiling membrane only— USG-F-FT-G&H†	SA-923 90
---	---	----	--	---	------------------

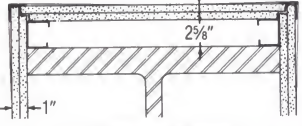
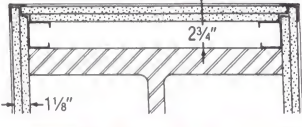
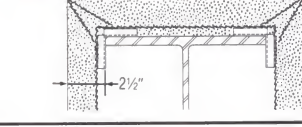
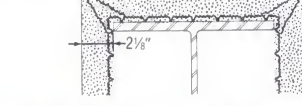
†RC-1 resilient channel may be used in place of metal furring channel.

†Per AMA-II test procedures for horizontally adjacent spaces.

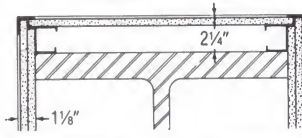
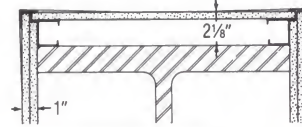
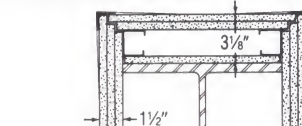
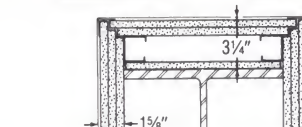
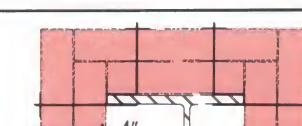
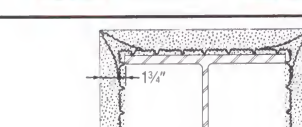
Column type	Physical data Construction detail	Fire-rated construction Description & test no.	Comments	Folder reference
-------------	--------------------------------------	---	----------	------------------

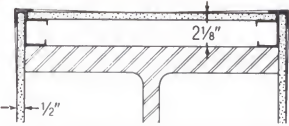
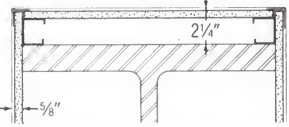
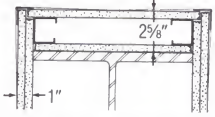
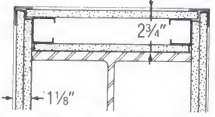
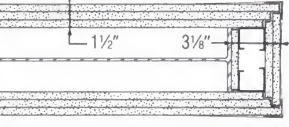
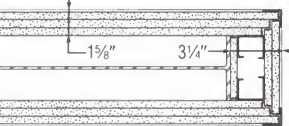
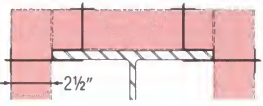
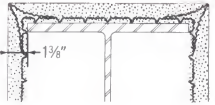
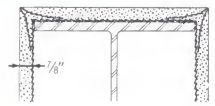
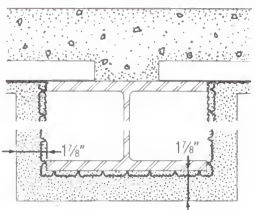
Column Fireproofing

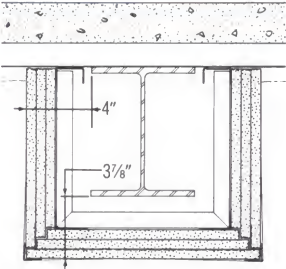
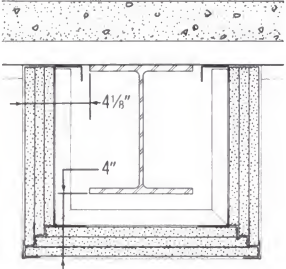
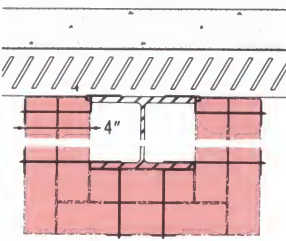
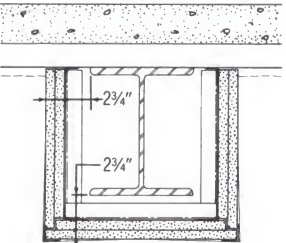
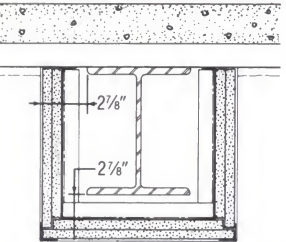
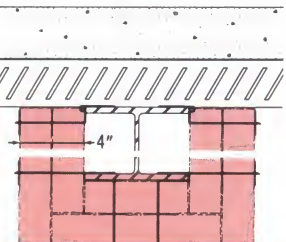
4-Hour Rated Applications

W14 x228		Gypsum Drywall Fireprfg—2 layers 1/2" SHEETROCK brand gypsum panels, FIRECODE C core, around col—panels screw att to 158ST25 steel studs at corners—met corner beads—joints fin— UL Des X507	SA-923	1
W14 x228		Gypsum Base & Veneer Finish Fireprfg—2 layers 1/2" IMPERIAL FIRECODE C gypsum base around col—base screw att to 158ST25 steel studs at corners—met corner beads—1/16" veneer finish— UL Des X507	SA-920	2
W14 x228		THERMAFIBER Mineral Fireprfg—2" fireprfg around col att with 1/8" stl wire studs welded to col 24" o.c.— UL Des X304	Dry assembly offers excellent thermal insulation for exterior columns SA-707	3
W10 x49		Metal lath & plaster—3.4# diamond mesh metal furred 1/2" from face of column—1 7/8" STRUCTO-LITE plaster with fill between flange face & lath— UL Des X405	SA-920	4
W10 x49		Metal lath & plaster—3.4# self-furring diamond mesh metal lath wrapped around column—1 3/4" STRUCTO-LITE plaster or 100:2-100:3 gypsum-perlite plaster— UL Des X402	SA-920	5

3-Hour Rated Applications

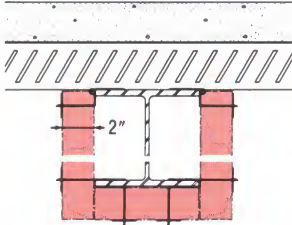
W14 x228		Gypsum Drywall Fireprfg—1/2" SHEETROCK brand gypsum panels, FIRECODE C core, around col—double layer over ea web face—panels screw att to 158ST25 steel studs at col corners—met corner beads—joints fin— UL Des X514	SA-923	6
W14 x228		Gypsum Base & Veneer Finish Fireprfg—1/2" IMPERIAL FIRECODE C gypsum base around col—double layer over ea web face—base screw att to 158ST25 steel studs at col corners—met corner beads—1/16" veneer finish— UL Des X514	SA-920	7
W10 x49		Gypsum Drywall Fireprfg—3 layers 1/2" SHEETROCK brand gypsum panels, FIRECODE C core, around col—triple layer over ea flange end—inner layers on flange face separ by 158ST25 steel studs & screw att—met beads on corners—joints fin— UL Des X515	SA-923	8
W10 x49		Gypsum Base & Veneer Finish Fireprfg—3 layers 1/2" IMPERIAL FIRECODE C gypsum base around col—triple layer over ea flange end—inner layers on flange face separ by 158ST25 steel studs & screw att—met beads on corners—1/16" veneer finish— UL Des X515	SA-920	9
W10 x49		THERMAFIBER Mineral Fireprfg—dbl layer 2" fireprfg around col att with stud welding pins or 12-ga. flange clips & clinch shields 16" o.c.— UL Des X306	Dry assembly, offers excellent insulation for exterior columns SA-707	10
W10 x49		Metal lath & plaster—3.4# self-furring diamond mesh metal lath wrapped around column—1 3/4" 100:2-100:3 gypsum-perlite plaster or STRUCTO-LITE plaster— UL Des X402	SA-920	11

Column type	Physical data Construction detail	Fire-rated construction Description & test no.	Comments	Folder reference
2-Hour Rated Applications				
W14 x228		Gypsum Drywall Fireprfg—1 layer— $\frac{1}{2}$ " SHEETROCK brand gypsum panels, FIRECODE C core, around col—panel screw att to 158ST25 steel studs at col corners—met corner beads—joints fin— UL Des X521		SA-923 12
W14 x228		Gypsum Base & Veneer Finish Fireprfg— $\frac{1}{2}$ " IMPERIAL FIRECODE C gypsum base around col—base screw att to 158ST25 steel stud at col corners—met corner beads— $\frac{1}{16}$ " veneer finish— UL Des X521		SA-920 13
W10 x49		Gypsum Drywall Fireprfg—2 layers $\frac{1}{2}$ " SHEETROCK brand gypsum panels, FIRECODE C core, around col—double layer over ea flange end—double layer on flange faces separ by 158ST25 steel stud & screw att—met beads on corners—joints fin— UL Des X518		SA-923 14
W10 x49		Gypsum Base & Veneer Finish Fireprfg—2 layers $\frac{1}{2}$ " IMPERIAL FIRECODE C gypsum base around col—double layer over ea flange end—double layer on flange faces separ by 158ST25 steel studs & screw att—met beads on corners— $\frac{1}{16}$ " veneer finish— UL Des X518		SA-920 15
Varies		Gypsum Drywall Fireprfg—3 layers $\frac{1}{2}$ " SHEETROCK brand gypsum panels, FIRECODE C core, around col—triple layer over ea flange end—inner layers on flange face separ by 158ST25 steel studs & screw att—met beads on corners—joints fin— UL Des X524	Rating also applies to tapered or constant section prefabricated metal building columns	SA-923 16
Varies		Gypsum Base & Veneer Finish Fireprfg—3 layers $\frac{1}{2}$ " IMPERIAL FIRECODE C gypsum base around col—triple layer over ea flange end—inner layer on flange face separ by 158ST25 steel studs & screw att—met beads on corners— $\frac{1}{16}$ " veneer finish— UL Des X524	Rating applies to tapered or constant-section prefabricated metal building columns	SA-920 17
W10 x49		THERMAFIBER Mineral Fireprfg— $2\frac{1}{2}$ " fireprfg around col att with stud welding pins or 12-ga. flange clips & clinch shields 24" o.c.— UL Des X305	Dry assembly; offers excellent thermal insulation for exterior columns	SA-707 18
W10 x49		Metal lath & plaster—3.4# self-furring diamond mesh metal lath wrapped around column—1" 100:2-100:3 gypsum-perlite plaster or STRUCTO-LITE plaster— UL Des X402		SA-920 19
1-Hour Rated Application				
W10 x49		Metal lath & plaster—3.4# self-furring diamond mesh metal lath wrapped around column— $\frac{3}{4}$ " 100:2-100:3 gypsum-sand plaster— BMS-92		SA-920 20
Beam Fireproofing				
4 hr.	W12 x58 	Metal Lath & Plaster Caged Beam Fireprfg—3.4# self-furring diamond mesh metal lath enclosing beam— $1\frac{1}{2}$ " 100:2 gypsum-perlite plaster— UL 40 UL8.16, UL Des D403	Suitable for protection of beams and girders	SA-920 21

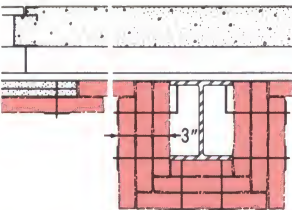
Column type	Physical data Construction detail	Fire-rated construction Description & test no.	Comments	Folder reference
3 hr. (beam only)	W8 x24 	Gypsum Drywall Caged Beam Fireprfg—1 5/8" stl run chan brackets 24" o.c.—7/8" x 1 3/8" corner angles att to brackets—3 layers 5/8" SHEETROCK brand gypsum panels, FIRECODE core, att with Type S screws—1" 20-ga. hex mesh on bottom over middle layer—met beads on corners—joints fin—2 1/2" conc deck on fluted stl flr— UL Des N505	Extends drywall use to beam protection. Fire rating for restrained assembly; 2-hr. rating for unrestrained assembly	SA-923 22
3 hr. (beam only)	W8 x24 	Gypsum Base & Veneer Finish Caged Beam Fireprfg—1 5/8" stl run chan brackets 24" o.c.—7/8" x 1 3/8" corner angles att to chan brackets—3 layers 5/8" IMPERIAL FIRECODE base att with Type S screws—1" 20-ga. hex mesh on bottom over middle layer—met beads on corners—joints taped—1/16" veneer finish—2 1/2" conc deck on fluted stl flr— UL Des N505	Fire rating for restrained assembly; 2-hr. rating for unrestrained assembly	SA-920 23
3 hr.	W8 x24 	THERMAFIBER Mineral Fireprfg—dbl layer 2" fireprfg around beam att with stud welding pins or 12-ga. flange clips & clinch shields 12" o.c.—2 1/2" conc deck on cellular stl flr— UL Des N304	Fire rating for restrained beam; unrestrained beam rating is 2-hr.	SA-707 24
2 hr. (beam only)	W8 x24 	Gypsum Drywall Caged Beam Fireprfg—1 5/8" stl run chan brackets 24" o.c.—1 3/8" x 7/8" corner angles att to chan brackets—dbl layer 5/8" SHEETROCK brand gypsum panels, FIRECODE core, att with Type S screws—met beads on corners—joints fin—2 1/2" conc deck on fluted stl flr— UL Des N501—UL Des N502	Design N502 based on 1 5/8" steel runner for corner angles and coped brackets	SA-923 25
2 hr. (beam only)	W8 x24 	Gypsum Base & Veneer Finish Fireprfg—1 5/8" stl run chan brackets—dbl layer 5/8" IMPERIAL FIRECODE base att with Type S screws—met beads on corners—1/16" veneer finish—2 1/2" conc deck on fluted stl flr— UL Des N501—UL Des N502	Design N502 based on 1 1/2" steel runner for corner angles and coped brackets	SA-920 26
2 hr.	W8 x13 	THERMAFIBER Mineral Fireprfg—dbl layer 2" fireprfg around beam att with stud welding pins or 12-ga. flange clips & clinch shields 16" o.c.—3/4" conc on fluted steel flr— UL Des D915	Fire rating is 1 1/2 hr. with cellular steel floor units	SA-707 27

Column type	Physical data Construction detail	Fire-rated construction Description & test no.	Comments	Folder reference
-------------	--------------------------------------	---	----------	------------------

Beam Fireproofing (continued)

2 hr.	W8 x24		THERMAFIBER Mineral Fireprfg—2" around beam att with stud welding pins or 12-ga. flange clips & clinch shields 12" o.c.—2½" conc on fluted stl flr— UL Des N304 —UL Des N305	Fire rating is 1½ hr. with cellular steel floor units	SA-707 28
-------	-----------	---	---	---	------------------

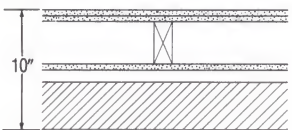
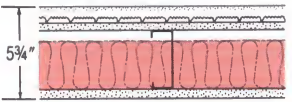
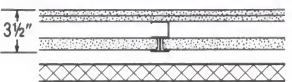
Trench Header Duct

3 hr.	W6 x12		THERMAFIBER Mineral Fireprfg—1" fireprfg, 8.25 pcf, under flr deck and trench header—dbl layer ½" SHEETROCK brand gypsum panels, FIRECODE C core, under trench header—triple layer 3" fireprfg around beam—fireprfg and panels att with stud welding pins & clinch shields—2½" conc on fluted stl flr— UL Des D301	Includes 4-hr. beam. Fire rating 2 hr. (beam 3-hr.) with 6.50-pcf min. fireprfg— UL Des D302	SA-707 29
-------	-----------	---	---	---	------------------

(See other System Folders Nos. SA-905, SA-920, SA-923 and United States Gypsum Company Technical Bulletin CS-6 for protection of beams, girders, and trusses by ceiling constructions.)

Physical data Construction detail	Fire-rated construction Description & test no.	Comments	Folder reference
--------------------------------------	---	----------	------------------

2-Hour Rated Assemblies

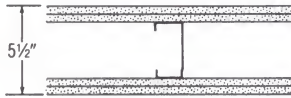
	Steel Stud—½" DUROCK exterior cement board—base layer ½" SHEETROCK brand gypsum panels, FIRECODE C core—board screw-attached with 1½" DUROCK steel screws 8" o.c. to 3½" 20-ga. min. steel non-load bearing studs 16" o.c.—3" THERMAFIBER SAFB—joints taped—double-layer SHEETROCK brand gypsum panels, FIRECODE C core, interior— UL Des U474		SA-700 1
	Dbl layer ½" SHEETROCK brand gypsum sheathing, FIRECODE core, exterior—35SJ20 studs 24" o.c.—dbl layer ½" SHEETROCK brand gypsum panels, FIRECODE core, interior—base layer att with 1" Type S-12 screws 12" o.c.—face layer att with 1½" Type S-12 screws 12" o.c.—load bearing up to 80% allowable stud axial load— UL Des U425	Rating also applies with SHEETROCK brand gypsum panels, water-resistant, FIRECODE core, gypsum panel exterior	SA-923 2
	Wd Stud—2 layers ½" SHEETROCK brand gypsum panels, FIRECODE core, interior—½" SHEETROCK brand gypsum sheathing, and 4" brick masonry veneer exterior—2x4 16" o.c.—sheathing appl horiz with 11d galv nails 6" o.c.—SHEETROCK brand gypsum panels, appl horiz or vert with nails 8" o.c.—joints stag & fin— UL Des U302	Rating also applies with IMPERIAL FIRECODE Base and veneer finish interior.	SA-924 3
	Exterior Curtain Wall—358ST20 steel studs 16" o.c.—½" gypsum sheathing—self-furring metal lath—1" cement-lime stucco exterior—3" THERMAFIBER fire safety FS-15 blankets betw studs—½" SHEETROCK brand gypsum panels, foil-back, FIRECODE C core, or IMPERIAL FIRECODE C gypsum base and ¼" IMPERIAL veneer finish interior— T-4851-OSU	Systems offer wide selection of exterior and interior surfaces, utilizing conventional materials	SA-923 4
	Exterior Curtain Wall—1" SHEETROCK brand gypsum liner panels set betw USG steel C-H studs 24" o.c. on exterior—2 layers SHEETROCK brand gypsum panels, FIRECODE C core, screw att on interior—joints fin— U of C 4-2-75	Rating also applies with IMPERIAL FIRECODE C base and veneer finish interior	SA-923 5
	Glass-fiber reinforced concrete panels, 6'8¼" x 7'0", ½" thick, bolted to frame—40SJ16 studs 16" o.c. anchored to panel—5" THERMAFIBER CW-40 curtain wall insulation in cavity—double layer ½" SHEETROCK brand gypsum panels, FIRECODE C core, interior—joints finished— CEG 4-23-82		SA-923 6

Physical data
Construction detailFire-rated construction
Description & test no.

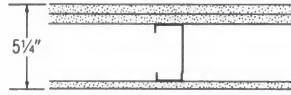
Comments

Folder
reference

1½-Hour Rated Assemblies



Dbl layer ½" SHEETROCK brand gypsum sheathing, FIRECODE core, exterior—35SJ20 studs 24" o.c.—dbl layer ½" SHEETROCK brand gypsum panels, FIRECODE core, interior—base layers att with 1" Type S-12 screws 12" o.c.—face layers att with 1½" Type S-12 screws 12" o.c.—load bearing up to 100% allowable stud axial load—**UL Des U425**

SA-923 **7**

½" SHEETROCK brand gypsum sheathing, exterior—35SJ20 studs 24" o.c.—dbl layer ½" SHEETROCK brand gypsum panels, FIRECODE core, interior—base layers att with 1" Type S-12 screws 12" o.c.—face layers att with 1½" Type S-12 screws 12" o.c.—load bearing up to 100% allowable stud axial load—**UL Des U425**

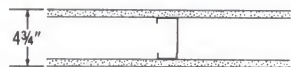
Rating applicable to fire exposure on interior face only

SA-923 **8**

Glass-fiber reinforced concrete panels, 6'8¼" x 7'0", ½" thick, bolted to frame—40SJ16 steel studs 16" o.c. anchored to panel—5" THERMAFIBER CW-40 curtain wall insulation in cavity—½" SHEETROCK brand gypsum panels, FIRECODE C core, interior screw-attached to studs—joints finished—**CEG 2-3-82**

SA-923 **9**

1-Hour Rated Assemblies



⅝" SHEETROCK brand gypsum sheathing, FIRECODE core, exterior—35SJ20 studs 24" o.c.—⅝" SHEETROCK brand gypsum panels, FIRECODE core, interior—panels appl vert & att with 1" Type S-12 screws 12" o.c.—load bearing up to 100% allowable stud axial load—**UL Des U425**

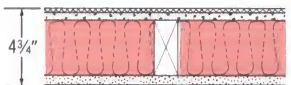
Rating also applies with SHEETROCK brand gypsum panels, water-resistant, FIRECODE core, exterior

SA-923 **10**

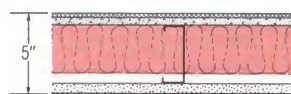
35SJ20 studs 24" o.c.—½" gypsum sheathing—1" extruded polystyrene insul installed horiz—½" cedar plywood exterior—3⅝" THERMAFIBER FS-15 insul blkts betw studs—½" SHEETROCK brand gypsum panels, FIRECODE C core, interior—joints fin—**CEG 11-9-79**

SA-923 **11**

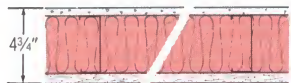
Wd Stud—⅝" SHEETROCK brand gypsum panels, FIRECODE C core, interior—1" extruded polystyrene insul sheathing and ½" plywd siding—2x4 16" o.c.—3½" THERMAFIBER FS-15 insul blkts—sheathing appl horiz with 1½" galv nails 12" o.c.—gypsum panels appl vert with 6d cem ctd nails 7" o.c.—joints fin—**CEG 12-5-79**

SA-924 **12**

Wd Stud—½" DUROCK exterior cement board and ¼" ceramic tile exterior—board att with 1½" DUROCK wood screws or 1½" hot dipped galvanized roofing nails 8" o.c.—2 x 4 wood load bearing studs spaced 16" o.c.—3½" THERMAFIBER FS-15 insulation between studs—½" SHEETROCK brand gypsum panels, FIRECODE core, or IMPERIAL FIRECODE gypsum base and ⅛" IMPERIAL finish interior—**UL Des U329**

SA-700 **13**

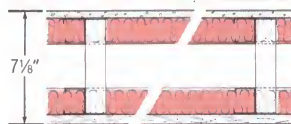
Steel stud—½" DUROCK exterior cement board and ¼" ceramic tile exterior—board screw-attached with 1¼" DUROCK steel screws 8" o.c. to 3⅝" 20-ga. min. steel non-load bearing studs spaced 16" o.c.—3" THERMAFIBER SAFB insul between studs—½" SHEETROCK brand gypsum panels, FIRECODE core, or IMPERIAL FIRECODE gypsum base and ⅛" IMPERIAL finish interior—**UL Des U442**

SA-700 **14**

Steel Stud—½" DUROCK exterior cement board—3⅝" 20-ga. min. steel non-load bearing studs 16" o.c.—3" min. THERMAFIBER SAFB—board att with 1¼" DUROCK steel screws 8" o.c.—joints taped—½" SHEETROCK brand gypsum panels, FIRECODE C core,—**UL Des U457**

SA-700 **15**

wt. 7



Steel Stud—½" DUROCK exterior cement board—1⅝" 20-ga. min. steel non-load bearing studs 16" o.c. in two rows with horiz braces—1½" THERMAFIBER SAFB in both stud cavities—board att with 1¼" DUROCK steel screws 8" o.c.—joints taped—½" SHEETROCK brand gypsum panels, FIRECODE C core—**UL Des U458**

SA-700 **16**

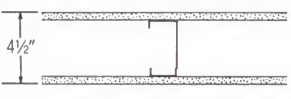
wt. 7



Steel Stud—½" DUROCK exterior cement board—base layer ⅝" SHEETROCK brand gypsum panels, FIRECODE core—board screw-attached with 1½" DUROCK steel screws 8" o.c. to 3½" 20-ga. min. steel load-bearing studs 16" o.c.—3" THERMAFIBER SAFB—joints taped—SHEETROCK brand gypsum panels, FIRECODE core, interior—**UL Des U473**

SA-700 **17**

45-Min. Rated Assembly

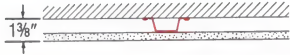
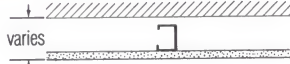
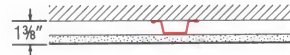
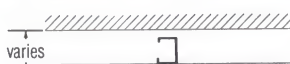


½" SHEETROCK brand gypsum sheathing, FIRECODE core—35SJ20 studs 24" o.c.—½" SHEETROCK brand gypsum panels, FIRECODE C core, interior—panels appl vert & att with 1" Type S-12 screws 12" o.c.—load bearing up to 100% allowable stud axial load—**UL Des U425**

SA-923 **18**

E

Exterior Wall Furring

Physical data Construction detail	Fire-rated construction Description & test no.	Comments	Folder reference
Drywall assemblies			
	Metal furring channels 24" o.c., 1/2" SHEETROCK brand gypsum panels, foil-back, screw attached, joints finished	Good vapor retarder, no limiting height	SA-923 1
	Wood furring strips 16" o.c., 1/2" SHEETROCK brand gypsum panels, foil-back, joints finished	Surface not isolated from structural stresses	SA-924 2
	USG Z-furring channels appl vert 24" o.c., THERMAFIBER fire safety FS-15 blankets betw chan, 1/2" SHEETROCK brand gypsum panels, foil-back, screw attached to channels, joints finished	Suitable for up to 3" thick insulation; good vapor retarder; no limiting height	SA-923 SA-924 3
	Steel studs 24" o.c., 1/2" SHEETROCK brand gypsum panels, foil-back, screw attached, joints finished	Free standing for pipe chase clearance; good vapor retarder	SA-923 4
	USG Z-furring channels appl vert 24" o.c., rigid plastic foam insulation betw chan, 1/2" SHEETROCK brand gypsum panels, foil-back, appl vert and screw-attached to channels, joints finished	Suitable for up to 3" thick insulation no limiting height	SA-923 5
	SHEETROCK brand gypsum liner panels screw-attached to steel angle runners, 1" USG H-splines 24" o.c., 1/2" SHEETROCK brand gypsum panels, foil-back, screw-attached to H-splines, joints finished	Free-standing for pipe chase clearance, good vapor retarder	SA-926 6
Plaster assemblies			
	Metal furring channels 16" o.c., 1/2" IMPERIAL gypsum base, foil-back, screw-attached to channels, 1/16" veneer finish	Good vapor retarder, no limiting height	SA-920 7
	Steel studs 16" o.c. set in runners, 1/2" IMPERIAL gypsum base, foil-back, screw-attached to studs, 1/16" veneer finish	Free-standing, allows for pipe chase clearance, good vapor retarder.	SA-920 8
	USG Z-furring channels appl vert 24" o.c., THERMAFIBER fire safety FS-15 blankets betw chan, 1/2" IMPERIAL gypsum base, foil-back, screw-attached to channels, 1/16" veneer finish	Noncombustible, good vapor retarder, no limiting height	SA-920 9
	USG Z-furring channels appl vert 24" o.c., rigid plastic foam insulation betw chan, 1/2" IMPERIAL gypsum base, foil-back, screw-attached to channels, 1/16" veneer finish	Suitable for up to 3" thick insulation, no limiting height	SA-920 10
	Steel studs 16" o.c. set in runners, 3/8" ROCKLATH base attached with 1" Type S screws, 1/2" sanded basecoat plaster, lime putty finish	Free standing; allows for pipe chase clearance; good vapor retarder.	SA-920 11
	USG Z-furring channels applied vertically 16" or 24" o.c., THERMAFIBER fire safety FS-25 blankets between channels, 3/8" ROCKLATH base attached with 1" Type S screws, 1/2" sanded basecoat plaster, lime putty finish	Noncombustible; system with mineral fiber insulation; suitable for up to 3" thick insulation; no limiting height.	SA-920 12
	USG Z-furring channels applied vertically 16" or 24" o.c., rigid plastic foam insulation between channels, 3/8" ROCKLATH base attached with 1" Type S screws, 1/2" sanded basecoat plaster, lime putty finish	Suitable for up to 3" thick insulation; no limiting height.	SA-920 13

F

Curtain Walls

Fire containment ⁽¹⁾	Curtain wall type	Description & test no.	
5 hr. ⁽²⁾	alum spandrel	Panel 5'x6'8", 1/8" thick, bolted to alum angle frame—2" THERMAFIBER CW-90 curtain wall insulation—alum weld-on pins with speed clips approx 12" o.c.— CEG 3-29-74	1
3 hr.	alum spandrel	Panel 4'x6'9", 0.123 thick, bolted to frame—3" THERMAFIBER CW-70 foil-faced curtain wall insulation—1/8" alum weld-on pins with speed clips spaced 14" vert and 12" horiz— USG 11-30-71	2

Fire containment ⁽¹⁾	Curtain wall type	Description & test no.	
3 hr.	glass spandrel	Tempered vision-glass panel, 3'2"x6'2 1/2", 1/4" thick, in alum frame—2" THERMAFIBER CW-90 dark curtain wall insulation—weld-on pins with speed clips at top and bottom— CEG 4-2-81	3
2 hr.	glass spandrel	Tempered glass panel, 4'8"x5'9", 1/4" thick, in alum frame—2" THERMAFIBER CW-90 foil-faced curtain wall insulation—weld-on pins with speed clips— WJE-72481	4
2 hr.	alum spandrel	Panel 4'x6'9", 0.247" thick, bolted to frame—2" THERMAFIBER CW-40 foil-faced curtain wall insulation—8d alum-nail, weld-on pins with speed clips spaced 14" vert and 12" horiz— USG 10-18-71	5
2 hr.	alum spandrel	Panel 5'0"x6'9", 1/8" thick, bolted to frame—2" THERMAFIBER CW-90 curtain wall insulation—weld-on pins with speed clips approx. 12" o.c.— WJE-72455	6
2 hr.	granite panel	Panel, 1 1/16" thick, secured to 2 1/2"x2 1/2"x1/4" steel angle frame 3'8"x6'6"—2" THERMAFIBER CW-90 foil-faced curtain wall insulation—weld-on pins with speed clips spaced 12" o.c. around frame— CEG 10-6-81	7
2 hr.	glass-fiber reinforced concrete panel	GFRC panels, 6'8 1/4"x7'0" 1/2" thick, bolted to frame—4" steel studs anchored to panel—5" THERMAFIBER CW-40 curtain wall insulation in cavity—2 layers 1/2" SHEETROCK brand gypsum panels, FIRECODE C core, screw att to studs— CEG 4-23-82	8
1 1/2 hr.	glass-fiber reinforced concrete panel	GFRC panels 6'8 1/4"x7'0", 1/2" thick, bolted to frame—4" steel studs anchored to panel—5" THERMAFIBER CW-40 curtain wall insulation in cavity—3/8" SHEETROCK brand gypsum panels, FIRECODE C core, screws att to studs— CEG 2-3-82	9
1 hr.	alum spandrel	Exterior alum and steel panel 4'5"x6'9" secured in frame—1 1/4" THERMAFIBER CW-90 curtain wall insulation—impaling pins and speed clips near center and top— USG 6-3-71	10
1 hr.	alum mullion glass panel	Heat-strengthened black glass panel 3'3"x5'9", 1/4" thick, in alum mullion frame—2" THERMAFIBER CW-90 foil-faced curtain wall insulation inserted in mullions—support clips at floor slab— CEG 8-6-81	11
1 hr.	alum mullion granite panel	Panel, 1 1/16" thick, inserted in alum mullion frame 3'7"x6'8"—horiz met fur chan betw mullions—2 1/2" THERMAFIBER CW-40 curtain wall insulation behind chan—5/8" SHEETROCK brand gypsum panels, FIRECODE C core, appl vert & screw att to chan— CEG 7-27-81	12
1 hr.	alum mullion glass panel	Tempered solar gray glass panel 5' 13/4"x6'x10", 1/4" thick, set in alum-mullion frame—2"x4'x5' THERMAFIBER CW-90 curtain wall insulation—wire impaling devices with speed clips 24" o.c.— CEG 7-25-75	13

(1) Times shown not to be construed as end points. (2) Conducted to establish an end-point for THERMAFIBER insulation in a typical curtain wall assembly, but after 5 hr. 5 min. without failure or physical change (except color), test was terminated to avoid furnace damage. Folder reference: SA-707.

Access Floor Systems

Office and Computer Room Systems

PERFORMANCE								
Rated Rolling Load (Lbs.)	Rated Concentrated Load (Lbs.)	Rated Ultimate Load (Lbs.)	Impact Load (Lbs.)	Recommended Finished Floor Height	APPLICATION	SYSTEM Panel	Understructure	Folder Reference
Intermediate Loads								
SOLIDFEEL II Panels								
600	800	2300	100	Up to 24"	Offices	SF-800	CORNERLOC	SA-1027 1
600	800	2400	100	Up to 18"	Offices	SF-800	FreeStanding	SA-1027 2
800	1000	3000	125	Up to 24"	Offices	SF-1000	CORNERLOC	SA-1027 3
800	1000	3300	125	Up to 18"	Offices, Computer Rooms	SF-1000	FreeStanding	SA-1027 4
800	1000	3500	125	Up to 36"	Computer Rooms	SF-1000	Edge Support Rigid Grid	SA-1027 5
800	1000	3400	125	Up to 24"	Computer Rooms	SF-1000	SNAP-LOC	SA-1027 6
All-Steel Panels								
400	1000	2600	100	Up to 24"	Offices	AS-1000	CORNERLOC	SA-1027 7
400	1000	3000	100	Up to 18"	Offices, Computer Rooms	AS-1000	FreeStanding	SA-1027 8
400	1000	4000	100	Up to 36"	Computer Rooms	AS-1000	Edge Support Rigid Grid	SA-1027 9
400	1000	3100	100	Up to 24"	Computer Rooms	AS-1000	SNAP-LOC	SA-1027 10
Wood-Lok Panels								
600	1000	2000	120	Up to 24"	Offices	WL-1000	WOOD-LOK	SA-1027 11
Wood-Cor Panels								
800	1000	2400	120	Up to 36"	Computer Rooms	WC-1000	WOOD-COR Rigid Grid	SA-1027 12
600	1000	2200	120	Up to 24"	Computer Rooms	WC-1000	WOOD-COR SNAP-LOC	SA-1027 13
600	1000	2000	120	Up to 18"	Computer Rooms	WC-1000	WOOD-COR FreeStanding	SA-1027 14

Rated system loads shown are recommended by USG Interiors and tested in accordance with CISCA Testing Standards.

Office and Computer Room Systems

PERFORMANCE

Rated Rolling Load (Lbs.)	Rated Concentrated Load (Lbs.)	Rated Ultimate Load (Lbs.)	Impact Load (Lbs.)	Recommended Finished Floor Height	APPLICATION	SYSTEM Panel	Understructure	Folder Reference
Heavy Loads								
SOLIDFEEL II Panels								
1000	1250	3200	150	Up to 24"	Offices	SF-1250	CORNERLOC	SA-1027 15
1000	1250	3400	150	Up to 18"	Offices, Computer Rooms	SF-1250	FreeStanding	SA-1027 16
1000	1250	4200	150	Up to 36"	Computer Rooms	SF-1250	Edge Support Rigid Grid	SA-1027 17
1000	1250	3500	150	Up to 24"	Computer Rooms	SF-1250	SNAP-LOC	SA-1027 18
All-Steel Panels								
500	1250	2800	110	Up to 24"	Offices	AS-1250	CORNERLOC	SA-1027 19
500	1250	3500	110	Up to 18"	Offices, Computer Rooms	AS-1250	FreeStanding	SA-1027 20
500	1250	4500	110	Up to 36"	Computer Rooms	AS-1250	Edge Support Rigid Grid	SA-1027 21
500	1250	3800	110	Up to 24"	Computer Rooms	AS-1250	SNAP-LOC	SA-1027 22
Mark 30 Panels								
500	1250	2500	120	Up to 36"	Computer Rooms	MK-1250	Mark 30 Rigid Grid	SA-1027 23
500	1250	2500	120	Up to 24"	Computer Rooms	MK-1250	Mark 30 SNAP-LOC	SA-1027 24

Extra-Heavy Loads

SOLIDFEEL II Panels								
1200	1500	3500	175	Up to 24"	Offices	SF-1500	CORNERLOC	SA-1027 25
1200	1500	5000	175	Up to 36"	Computer Rooms	SF-1500	Edge Support Rigid Grid	SA-1027 26
1200	1500	4000	175	Up to 24"	Computer Rooms	SF-1500	SNAP-LOC	SA-1027 27
2000	2000	6000	200	Up to 36"	Computer Rooms	SF-2000	Edge Support Rigid Grid	SA-1027 28
All-Steel Panels								
600	1500	3000	120	Up to 24"	Offices	AS-1500	CORNERLOC	SA-1027 29
600	1500	4700	120	Up to 36"	Computer Rooms	AS-1500	Edge Support Rigid Grid	SA-1027 30
600	1500	4700	120	Up to 24"	Computer Rooms	AS-1500	SNAP-LOC	SA-1027 31
Mark 30 Panels								
600	1500	3000	120	Up to 36"	Computer Rooms	MK-1500	Mark 30 Rigid Grid	SA-1027 32
600	1500	3000	120	Up to 24"	Computer Rooms	MK-1500	Mark 30 SNAP-LOC	SA-1027 33

Rated system loads shown are recommended by USG Interiors and tested in accordance with CISC Testing Standards.

Clean Room Systems

PERFORMANCE

Rated			Airflow			SYSTEM		Folder Reference
Rolling Load (Lbs.)	Concentrated Load (Lbs.)	Ultimate Load (Lbs.)	Static Pressure (inches of H ₂ O)			Panel	Understructure	
			0.01	0.1	0.2			
Intermediate Loads								
						Aluminum Solid Panel		
850	1000	3200	—	—	—	AL-1000	FreeStanding	SA-1027 34
						Aluminum Perforated Panel		
850	1000	2500	217 CFM	672 CFM	950 CFM	AP-1000	FreeStanding	SA-1027 35
						Aluminum Grate		
850	1000	2300	1400 CFM	4404 CFM	6365 CFM	AG-1000	FreeStanding	SA-1027 36

Rated system loads shown are recommended by USG Interiors. Airflow is measured in cubic feet per minute using grates and perforated panels without dampers.

Title	Folder reference
DUROCK Exterior Cement Board Systems	SA-700
Lightweight, fire-resistant assemblies for steel-framed and wood-framed exteriors; cement board serves as base for DUROCK Exterior Finish, ceramic tile, thin brick, stone aggregate.	
THERMAFIBER Life-Safety Insulation Systems	SA-707
Curtain wall and safing insulation for fire-containment in high-rise buildings; sound attenuation fire blankets for outstanding thermal and sound control insulation; structural fireproofing.	
Ceiling Suspension Systems	SA-904
DONN grid products, the most complete selection of suspension systems in the commercial building industry; exposed, narrow, concealed and special use ceiling suspension systems.	
Ceiling Systems	SA-905
ACOUSTONE and AURATONE mineral acoustical tile and panels; special-function tile and panels; gypsum ceiling board; fire protection and sound attenuation accessories.	
USG Plaster Products, Accessories & Systems	SA-920
Veneer basecoat and finish plasters; conventional basecoat, finish coat, and gauging plasters; accessories.	
USG Resilient Drywall/Steel Framed Systems	SA-921
Double wall sound isolation without the cost or space required for two structural systems; ideal for party walls, mechanical equipment rooms, theaters, studios and music buildings.	
USG High-Attenuation Wall Systems	SA-922
Highly sound attenuating, non-load bearing drywall partitions for party, chase and furring walls.	
USG Drywall/Steel Framed Systems	SA-923
Fire-resistant interior and exterior steel framed drywall systems; partitions, chase walls, resilient partitions, curved drywall partitions, soffits, floors, ceilings, column and beam fireproofing.	
USG Drywall/Wood Framed Systems	SA-924
Basic gypsum drywall assemblies offer economical, quickly erected, load-bearing partitions, walls and ceilings wherever fire protection is desired with wood framing.	
USG Area Separation Wall Systems	SA-925
Lightweight, non-load bearing gypsum drywall assemblies designed as vertical fire barriers for fire walls and party walls in wood-frame apartments and townhouses.	
USG Cavity Shaft Wall Systems	SA-926
Fire-resistant drywall partitions for enclosing shafts in multi-story buildings; engineered design provides a thin, lightweight assembly that offers faster installation and lower material costs.	
Gypsum Panels & Accessories	SA-927
Gypsum panels, coreboard, sheathing; metal and plastic trim, brackets, control joints; screws and adhesives; joint treatments.	
TEXTONE Vinyl-Faced Gypsum Panels	SA-928
Predecorated vinyl-faced gypsum panels; mouldings and accessories.	
DUROCK Interior Cement Board Systems	SA-932
Ceramic tile backer board for interior walls, ceilings, floors, counter tops; adhesives, mortars, grouts.	
USG Texture Finish and Products	SA-933
Ready-mixed and powder texture finishes; spray acoustical finish.	
Relocatable Wall Systems	SA-1020
Relocatable partitions for commercial, institutional, industrial, applications meet range of requirements for performance, appearance, flexibility and cost control.	
DONN Access Floor Systems	SA-1027
Access floor systems for offices, computer and clean rooms; electrical outlet systems; air distribution; floor coverings; accessories.	

The listings below contain existing Standard Specifications, classified as Federal or ASTM, which apply to USG Corporation materials. Where ASTM, local codes, etc. require product variance, consult your local representative.

ST and SJ series studs and runners and other steel accessories for drywall, plaster and load-bearing construction are produced for United States Gypsum Company by Unimast, Inc. of Fremont, Ohio. Upon request United States Gypsum Company will provide product certification that these products confirm to the applicable U.S. Gypsum and ASTM standards and meet the performance values identified herein.

Product	Federal specification	ASTM designation
Plaster		
RED TOP gypsum plaster	—	C28—gypsum neat plaster
RED TOP two-purpose plaster	—	C28—gypsum neat plaster
RED TOP wood fiber plaster	—	C28—gypsum wood fiber
STRUCTO-LITE plaster	—	C28—gypsum ready mix plaster
perlite aggregate	—	C35
RED TOP gauging plaster	—	C28—gypsum gauging for finish coat
RED TOP keenes cement regular quick trowel	—	C61 C61
STRUCTO-GAUGE plaster	—	C28—gypsum gauging for finish coat
STRUCTO-BASE plaster	—	C28—gypsum neat plaster
IMPERIAL plaster	—	C587—gypsum veneer plaster
DIAMOND plaster	—	C587—gypsum veneer plaster
Gypsum lathing		
ROCKLATH plaster base— 3/8" & 1/2"	—	C37
IMPERIAL gypsum base— 1/2" & 5/8"	—	C588
Lime		
RED TOP and GRAND PRIZE finish limes	—	C206 type N
IVORY finish lime	—	C206 type S
RED TOP masons hydrate	—	C207 type N
Gypsum panels		
SHEETROCK brand (plain) (foil-back)	—	C36
SHEETROCK brand sq. edge	—	C36
SHEETROCK brand tap. edge	—	C36
SHEETROCK brand bev. edge	—	C36
5/8" SHEETROCK brand FIRECODE core	—	C36
SHEETROCK brand FIRECODE C core	—	C36
TEXTONE vinyl-covered	—	C960
SHEETROCK brand water-resistant	—	C630
SHEETROCK brand gypsum coreboard panels	—	C442
SHEETROCK brand exterior gypsum ceiling board	—	C931

Product	Federal specification	ASTM designation
Gypsum panels		
Sheathing		
SHEETROCK brand gypsum sheathing	—	C79
Joint treatment		
SHEETROCK joint compounds	—	C475
Drywall accessories		
Steel studs, runners, furring channels, RC-1 resilient channels	QQ-S-775E type I class f (steel)	A568 (steel) C645 (except RC-1 resilient channels) A525 (galv. coating) A792 (alum.-zinc coating)
Shaft wall/area separation wall studs	—	A446 (steel) A525 (galv. coating) A792 (alum.-zinc coating)
USG drywall screws SUPER-TITE screws	—	C1002 (type S) C954 (type S-12 and SUPER-TITE DRILLERS)
SHEETROCK acoustical sealant	—	C919

Product	Federal specification	ASTM designation
Acoustical units—prefabricated		
ACOUSTONE AURATONE	SS-S-118B (GSA-FSS) type III class 25	E84
Mineral fiber insulation		
THERMAFIBER open face batt (membrane facing one side)	—	C665
blanket batt (with enveloping membranes)	—	C665
blowing wool	—	C612
pouring wool	—	C612
sound atten. fire blanket	—	C665
THERMAFIBER safety insulation curtain wall insulation mineral felt fireproofing	HH-I-558B Form A, classes 1 & 2	C665

Sales Offices

United States Gypsum Company

Arizona:	Phoenix, (602) 866-0795
California:	Fremont, (415) 792-4400 Glendale, (818) 956-1882
Colorado:	Denver, (303) 721-9394
Florida:	Jacksonville, (904) 764-3293 Miami (305) 557-4501
Georgia:	Atlanta, (404) 393-0770
Hawaii:	Honolulu, (808) 538-7712
Illinois:	Chicago, (312) 606-5473
Indiana:	Indianapolis, (317) 848-1513
Louisiana:	New Orleans, (504) 241-2020
Maryland:	Baltimore, (301) 355-2200
Massachusetts:	Charlestown, (617) 241-8530
Michigan:	Southfield, (313) 569-1900
Minnesota:	Bloomington, (612) 854-4233
Missouri:	St. Louis, (314) 349-0980
New York:	Albany, (518) 458-7437 Oakfield, (716) 948-5287 Stony Point, (914) 786-2820
North Carolina:	Charlotte, (704) 552-7402
Ohio:	Chesterland, (216) 729-1956
Oregon:	Beaverton, (503) 626-8864
Pennsylvania:	Pittsburgh, (412) 341-2434
Tennessee:	Nashville, (615) 361-8419
Texas:	Dallas, (214) 357-6271 Houston, (713) 672-8819
Utah:	Salt Lake City, (801) 266-4975
Virginia:	Richmond, (804) 285-7528
International Division:	Chicago, (312) 606-5831
Technical Services:	Contact the following offices for technical assistance concerning design, materials, systems, detailing and specifications.
Eastern Region:	Atlanta, GA (404) 393-0770
Northeast Office:	Tarrytown, NY (914) 333-1100
Central Region:	Chicago, IL (312) 606-5475
Western Region:	Glendale, CA (818) 956-1882

USG Interiors, Inc.

Ceilings

Chicago/Gateway:	Lisle, IL (708) 505-0055
Northeast:	Tarrytown, NY (914) 333-5555
Southeast:	Atlanta, GA (404) 396-9022
Southwest:	Dallas, TX (214) 357-6277
South Pacific:	Anaheim, CA (714) 978-0901
Mid Atlantic:	Long Island City, NY (718) 937-7744
Gulf Coast:	Orlando, FL (407) 851-9485
Great Lakes:	Westlake, OH (800) 777-8744
North Pacific:	Pleasanton, CA (415) 460-8470
Customer Relations Centers:	1-800-950-3839

Walls

Ohio:	Westlake, (216) 892-7318
New York:	Long Island City, (718) 937-7744
Illinois:	Lisle, (708) 505-0055
California:	Pleasanton, (415) 460-8470
Georgia:	Atlanta, (404) 396-9022

Access Floors

Pennsylvania:	Red Lion, (717) 244-4071
Ohio:	Westlake, (216) 892-7318
New York:	Long Island City, (718) 937-7744
Illinois:	Lisle, (708) 505-0055
California:	Pleasanton, (415) 460-8470
Georgia:	Atlanta, (404) 396-9022

Engineering and Sales/Service:

USG Interiors Showroom: Long Island City, NY (718) 937-7744

Trademarks: The following trademarks used herein are owned by USG Corporation or its subsidiaries: ACOUSTONE, AURATONE, CORNERLOC, DONN, DUROCK, FIRECODE, IMPERIAL, IVORY, RC-1, RED TOP, ROCKLATH, SOLIDFEEL, SHEETROCK, STRUCTOCORE, STRUCTO-GAUGE, STRUCTO-LITE, TEXTONE, THERMAFIBER, WOOD-COR, WOOD-LOK, USG. S-12 is a trademark of ITW Buildex. SUPER-TITE and DRILLERS are trademarks of Unimast, Inc. MASTERFORMAT is a trademark of the Construction Specifications Institute.

Note: All products described here may not be available in all geographic markets. Consult your local sales office or representative for information.

Notice: We shall not be liable for incidental and consequential damages, directly or indirectly sustained, nor for any loss caused by application of these goods not in accordance with current printed instructions or for other than the intended use. Our liability is expressly limited to replacement of defective goods. Any claim shall be deemed waived unless made in writing to us within thirty (30) days from date it was or reasonably should have been discovered.

Product	Federal specification	ASTM designation
Gypsum panels		

Product	Federal specification	ASTM designation
Acoustical units—prefabricated		

Digitized by:



ASSOCIATION
FOR
PRESERVATION
TECHNOLOGY,
INTERNATIONAL
www.apti.org

BUILDING
TECHNOLOGY
HERITAGE
LIBRARY

<https://archive.org/details/buildingtechnologyheritagelibrary>

From the collection of:

United States Gypsum

